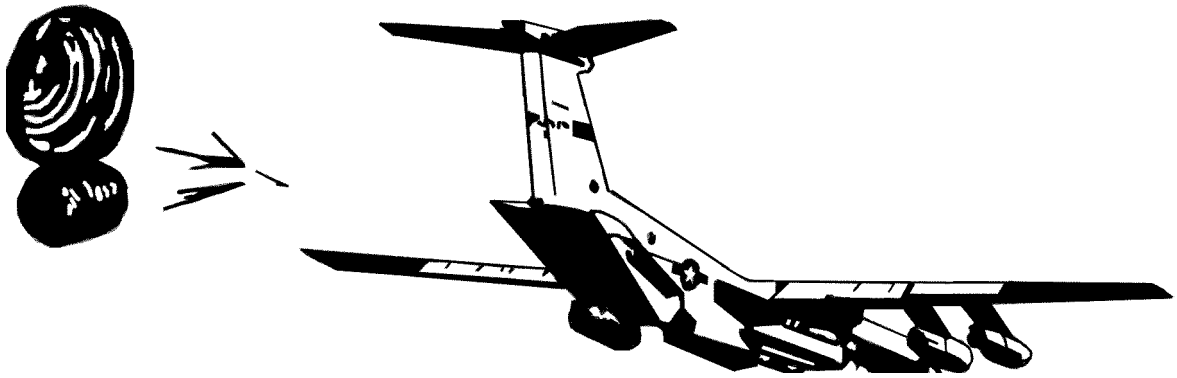

AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING FORWARD AREA REFUELING EQUIPMENT (FARE)

HEADQUARTERS
DEPARTMENT OF THE ARMY
DEPARTMENT OF THE AIR FORCE

CHANGE
No 5

HEADQUARTERS
DEPARTMENT OF THE ARMY
DEPARTMENT OF THE AIR FORCE
Washington, DC, 30 September 1999

AIRDROP OF SUPPLIES AND EQUIPMENT
RIGGING THE FORWARD AREA REFUELING EQUIPMENT (FARE)

This change adds the procedures for rigging the Forward Area Refueling Equipment (FARE) with three, four, five and six 500-gallon drums.

FM 10-537/TO 13C7-1-19, 28 February 1983, is changed as follows:

1. New or changed material is identified by a vertical bar in the margin opposite the changed material.

2. File this transmittal sheet in front of the publication for reference purposes.

3. Remove old pages and insert new pages as indicated below:

Remove old pages	**Insert new pages**
Cover page	Cover page
v through vii	v through ix
	11-1 through 11-128

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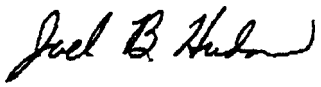

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PREFACE

SCOPE

This manual tells and shows how to prepare and rig the Forward Area Refueling Equipment (FARE), on a type V platform for low-velocity airdrop. This manual is designed for use by all parachute riggers.

USER INFORMATION

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CHAPTER 11

RIGGING 500-GALLON DRUMS WITH A PUMP AND SEPARATOR ON A 24-FOOT, TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

SECTION I

RIGGING THREE 500-GALLON DRUMS

11-1. Description of Load

The three collapsible drums are rigged on a 24-foot, type V platform with four G-11 cargo parachutes. Each drum is filled with a maximum of 432 gallons of liquid. Each drum weighs 3,832 pounds and is 62 inches long and 53 inches in diameter. The three drums also have a 350-GPM pump with a separator and hose box as an accompanying load. The total rigged load has a maximum weight of 20,689 pounds with a width of 108 inches and length of 324 inches. It has an overhang of 18 inches in the front and 18 inches in the rear. If the drums are filled with fuel, the weight must be computed using the conversion table shown in Figure 11-1.

11-2. Preparing the Platform

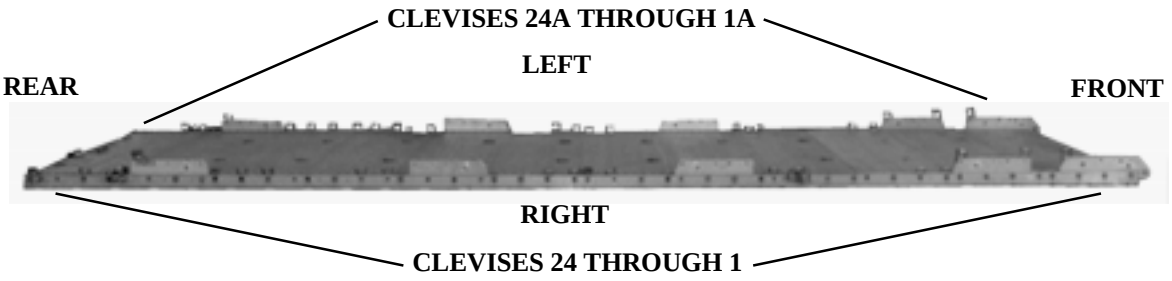
Prepare a 24-foot, type V platform using two tandem multipurpose links, eight suspension links and 48 tiedown clevises as shown in Figure 11-2.

NOTE: Do not pressurize drums with air.

WEIGHT CONVERSION TABLE

TYPE OF LIQUID	WEIGHT PER GALLON	TOTAL WEIGHT OF DRUM WITH 432 GALLONS OF LIQUID
Gasoline	6 pounds	2, 842 pounds
JP-4	6.6 pounds	3,101 pounds
Diesel	6.68 pounds	3,136 pounds
Water (training)	8.3 pounds	3,832 pounds

Figure 11-1. Weight conversion table



Steps:

1. Install a tandem multi-purpose link to each platform side rail using holes 1, 2, and 3.

2. Install a suspension link to each platform side rail using holes 6, 7, and 8.

3. Install a suspension link to each platform side rail using holes 18, 19, and 20.

4. Install a suspension link to each platform side rail using holes 29, 30, and 31.

5. Install a suspension link to each platform side rail using holes 41, 42, and 43.

6. Install a clevis on bushing 4 on each of the front tandem links.

7. Install a clevis on bushing 1 on each of the first suspension links.

8. Install a clevis on bushing 4 on each of the first suspension links.

9. Install a double clevis on bushing 4 on each of the fourth suspension links.

10. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 9, 10, 15 (tripled), 16, 23, 24, 25, 26, 33, 34, 38, 39, 40, 44 (tripled), 45, 46, and 48 (doubled).

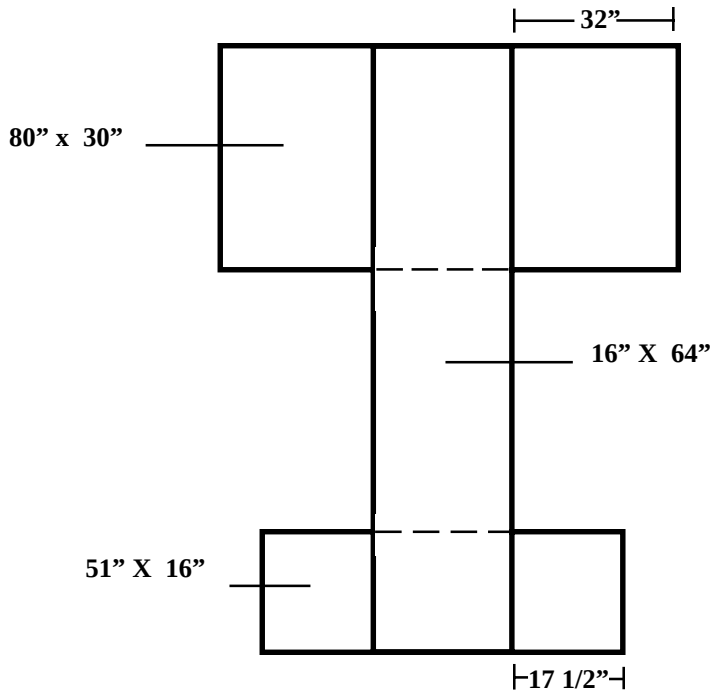
11. Starting at the front of the platform, number the clevises 1 through 24 on the right side and 1A through 24A on the left side.

NOTE: Use the clevis on bushing 48 as clevises 24 and 24A, and the doubled clevises as 23 and 23A.

Figure 11-2. Platform prepared

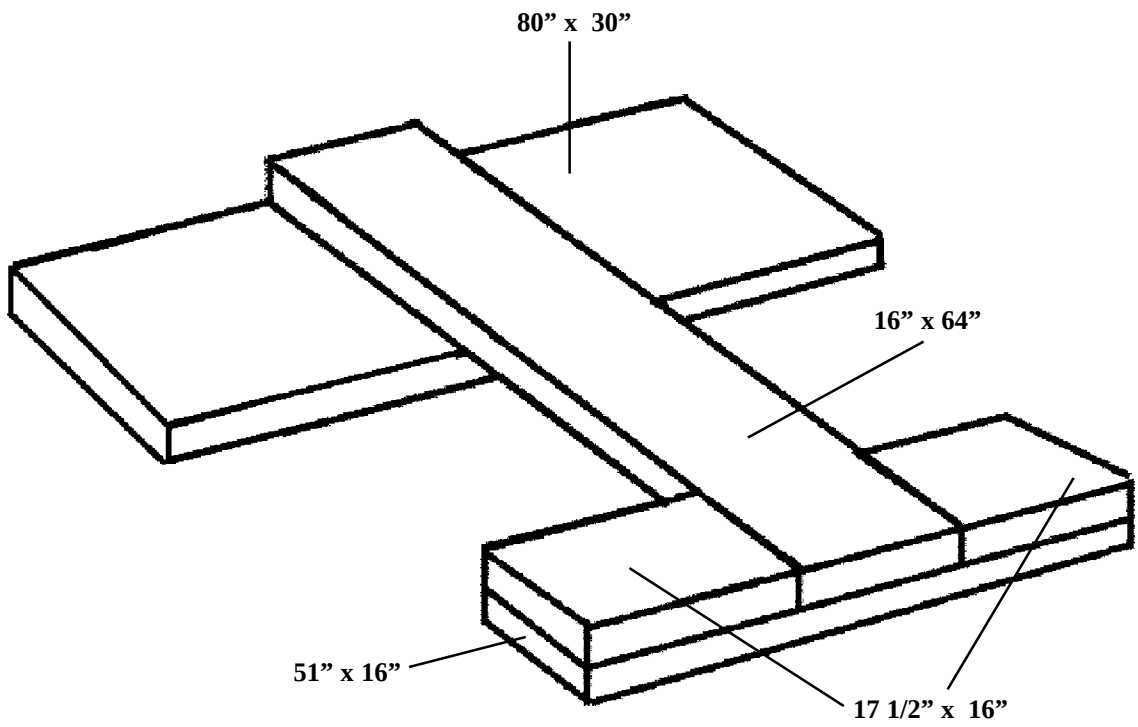
11-3. Preparing Honeycomb Stacks

Build honeycomb stacks as shown in Figures 11- 3 through 11- 5.



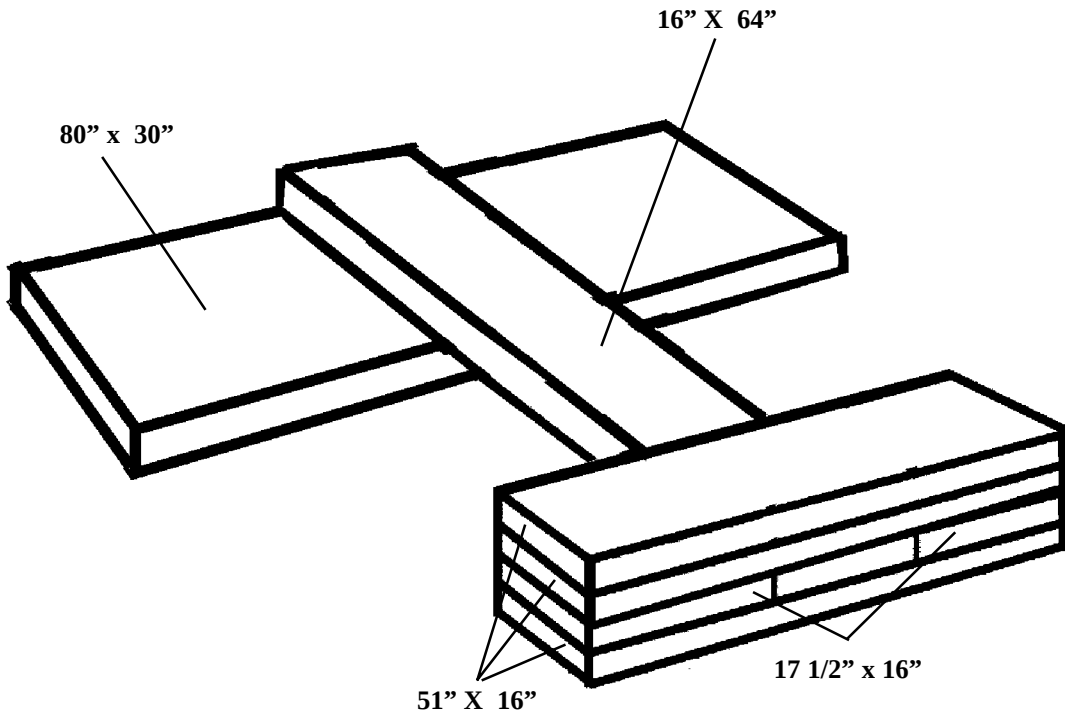
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	1	80	30	Honeycomb	Position the piece of honeycomb on the floor.
	1	16	64	Honeycomb	Center the piece of honeycomb on top of the 80-inch by 30-inch piece of honeycomb and glue.
	1	51	16	Honeycomb	Center the piece of honeycomb under the 16-inch by 64-inch piece of honeycomb and glue.

Figure 11-3. Honeycomb stack 1 prepared



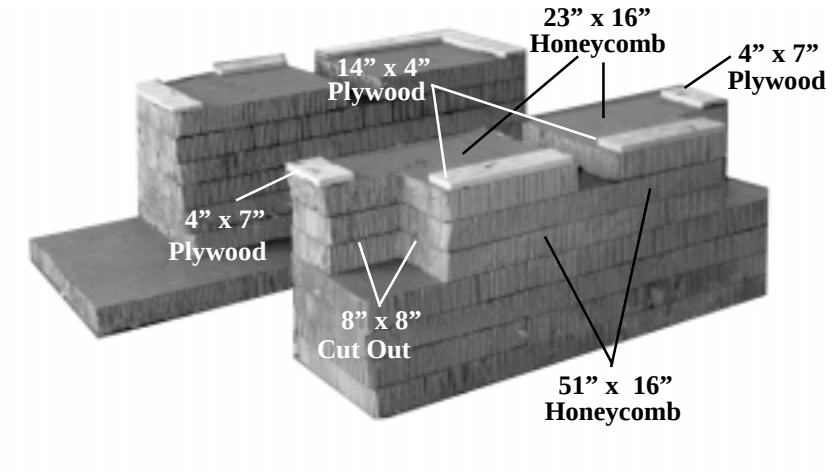
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	17 1/2	16	Honeycomb	Position the two honeycomb pieces on top of the 51-inch by 16-inch piece of honey-comb and next to each side of the 16-inch by 64-inch piece of honeycomb and glue.

Figure 11-3. Honeycomb stack 1 prepared (continued)



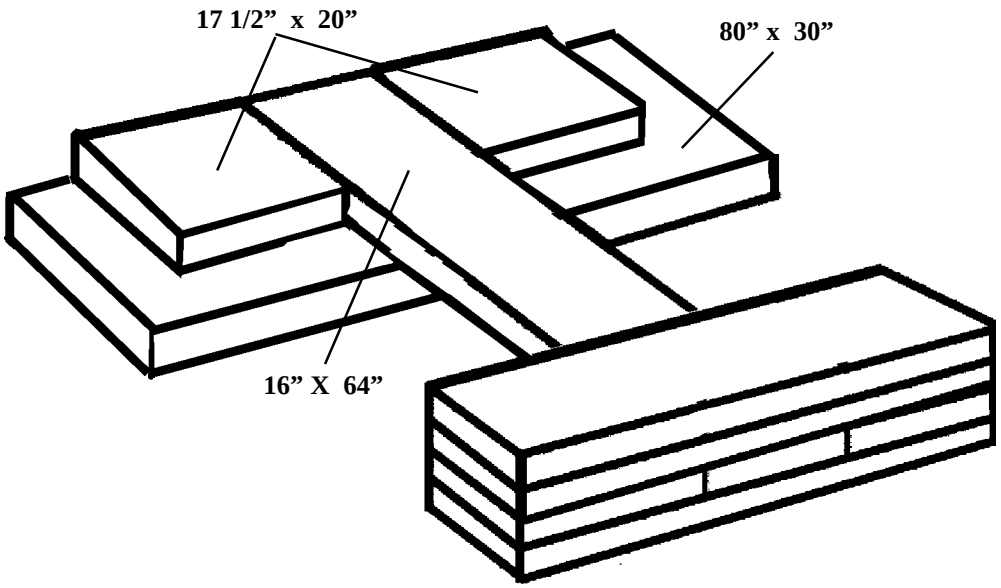
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	51	16	Honeycomb	Position the two 51-inch by 16-inch pieces of honeycomb on top of the two pieces of 16-inch by 17 1/2-inch honey comb and glue.

Figure 11-3. Honeycomb stack 1 prepared (continued)



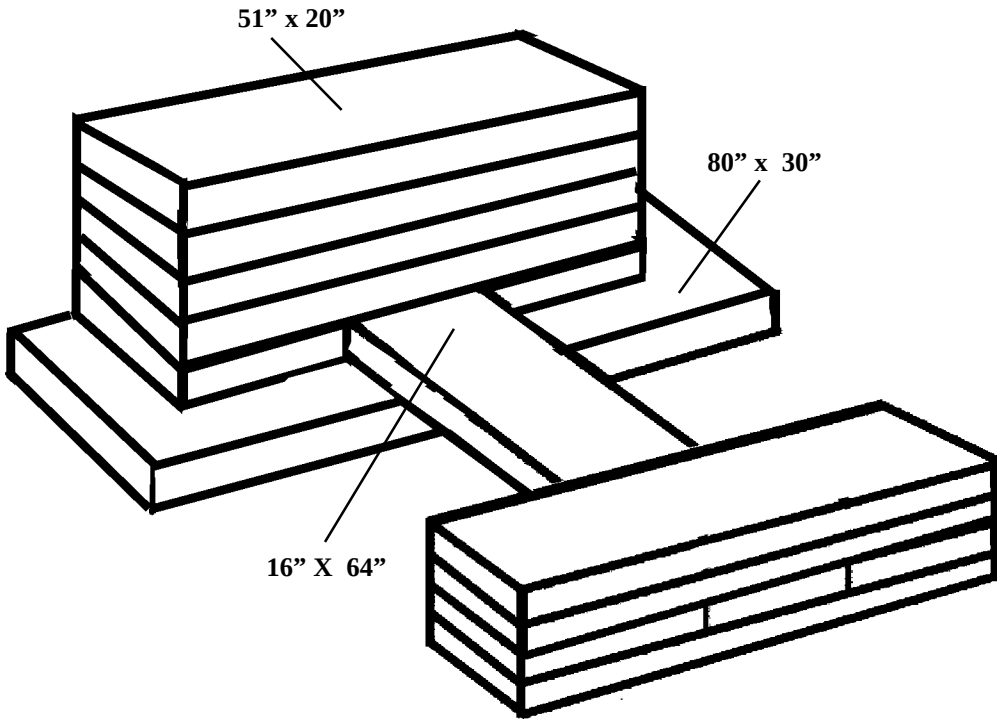
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	51	16	Honeycomb	Cut an 8-inch by 8-inch cutout on each piece of honeycomb. Position the two 51-inch by 16-inch pieces of honeycomb with the cutouts on top of the two whole pieces of 51-inch by 16-inch piece of honeycomb and glue.
	2	23	16	Honeycomb	Cut an 8-inch by 8-inch cutout on each piece of honeycomb. Position the two pieces on top of the 51-inch by 16-inch piece of honeycomb and glue.
	2	4	7	3/4-inch Plywood	Center and position on the front edges of the 23-inch by 16-inch piece of honeycomb and glue.
	2	14	4	3/4-inch Plywood	Center and position on the front edges of the 23-inch by 16-inch piece of honeycomb and glue.

Figure 11-3. Honeycomb stack 1 prepared (continued)



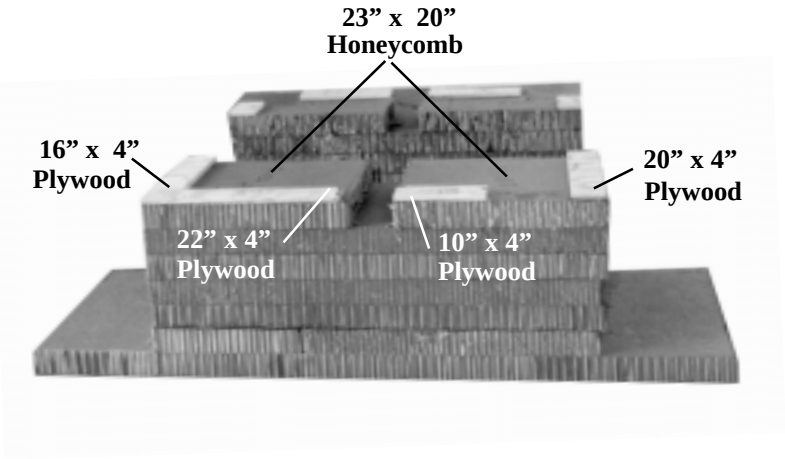
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	17 1/2	20	Honeycomb	Position the two honeycomb pieces flush to the rear on top of the 80-inch by 30-inch piece of honeycomb and next to each side of the 16-inch by 64-inch piece of honeycomb and glue.

Figure 11-3. Honeycomb stack 1 prepared (continued)



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	4	51	20	Honeycomb	Position the four pieces of 51-inch by 20-inch pieces of honeycomb on top of the two 17 1/2-inch by 20-inch pieces of honeycomb and glue.

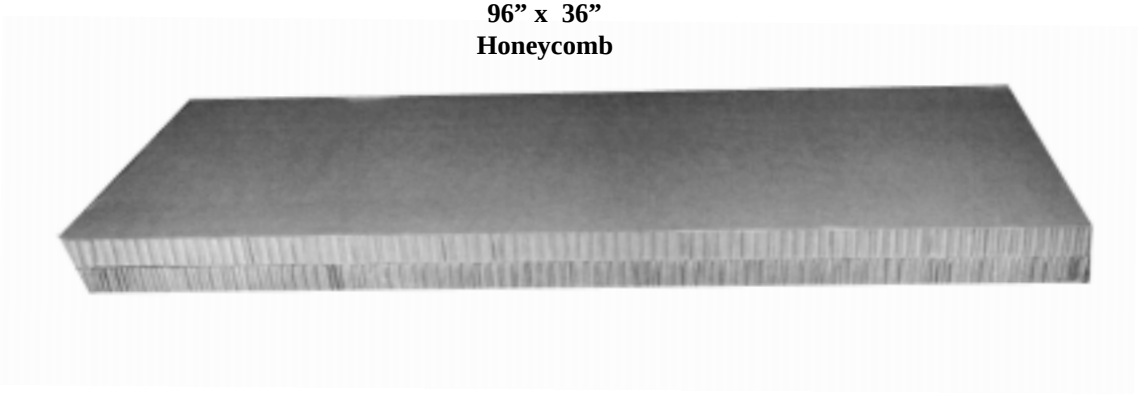
Figure 11-3. Honeycomb stack 1 prepared (continued)



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	23	20	Honeycomb	Position the two pieces of honeycomb on top of the 51-inch by 20-inch piece of honeycomb aligning the outside edges and glue.
	1	4	20	3/4-inch Plywood	Position the piece of plywood on the right outside edge of the right 23-inch by 20-inch piece of honeycomb and glue.
	1	10	4	3/4-inch Plywood	Position the piece of plywood on left rear edge of the right 23-inch by 20-inch piece of honeycomb and glue.
	1	22	4	3/4-inch Plywood	Position the piece of plywood on rear left edge of the left 23-inch by 20-inch piece of honeycomb and glue.
	1	4	16	3/4-inch Plywood	Position the piece of plywood on the left outside edge of the 20-inch by 23-inch piece of honeycomb and glue.

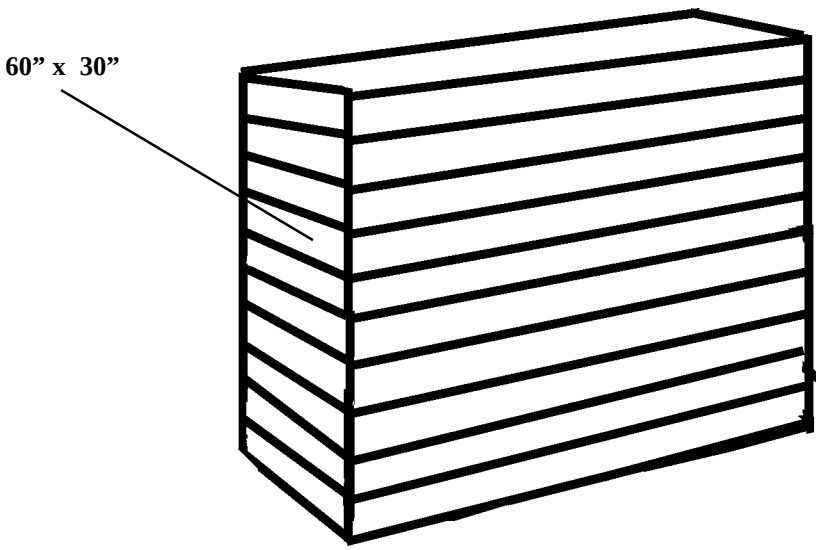
Figure 11-3. Honeycomb stack 1 prepared (continued)

96” x 36”
Honeycomb



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	2	96	36	Honeycomb	Glue together and position on rear edge of platform.
3	2	96	36	Honeycomb	Glue together and position in front of stack 2.
4	2	96	36	Honeycomb	Glue together and position in front of stack 3.
5	2	96	36	Honeycomb	Glue together and position in front of stack 4.
6	2	96	36	Honeycomb	Glue together and position in front of stack 5.
7	2	96	36	Honeycomb	Glue together and position in front of stack 6.

Figure 11-4. Honeycomb stacks 2 through 7 prepared

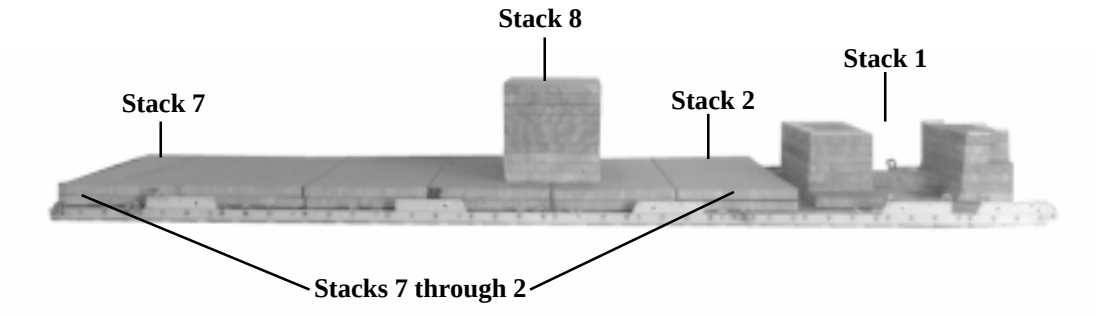


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
8	10	60	30	Honeycomb	Glue together and position so that stack is centered 144 inches from the front edge of the platform.

Figure 11-5. Honeycomb stack 8 prepared

11-4. Positioning Honeycomb Stacks

Position honeycomb stacks as shown in Figure 11-6.



Step:

1. Position stack 1 on the front edge of the platform and centered.
2. Position stack 2 through stack 7 lined up on the rear edge of the platform and placed one in front of the other.
3. Position stack 8 centered at 144 inches from the front of the platform.

Figure 11-6. Honeycomb stacks positioned

11-5. Building the Equipment Hose Box

Build the equipment hose box as shown in Figure 11-7.

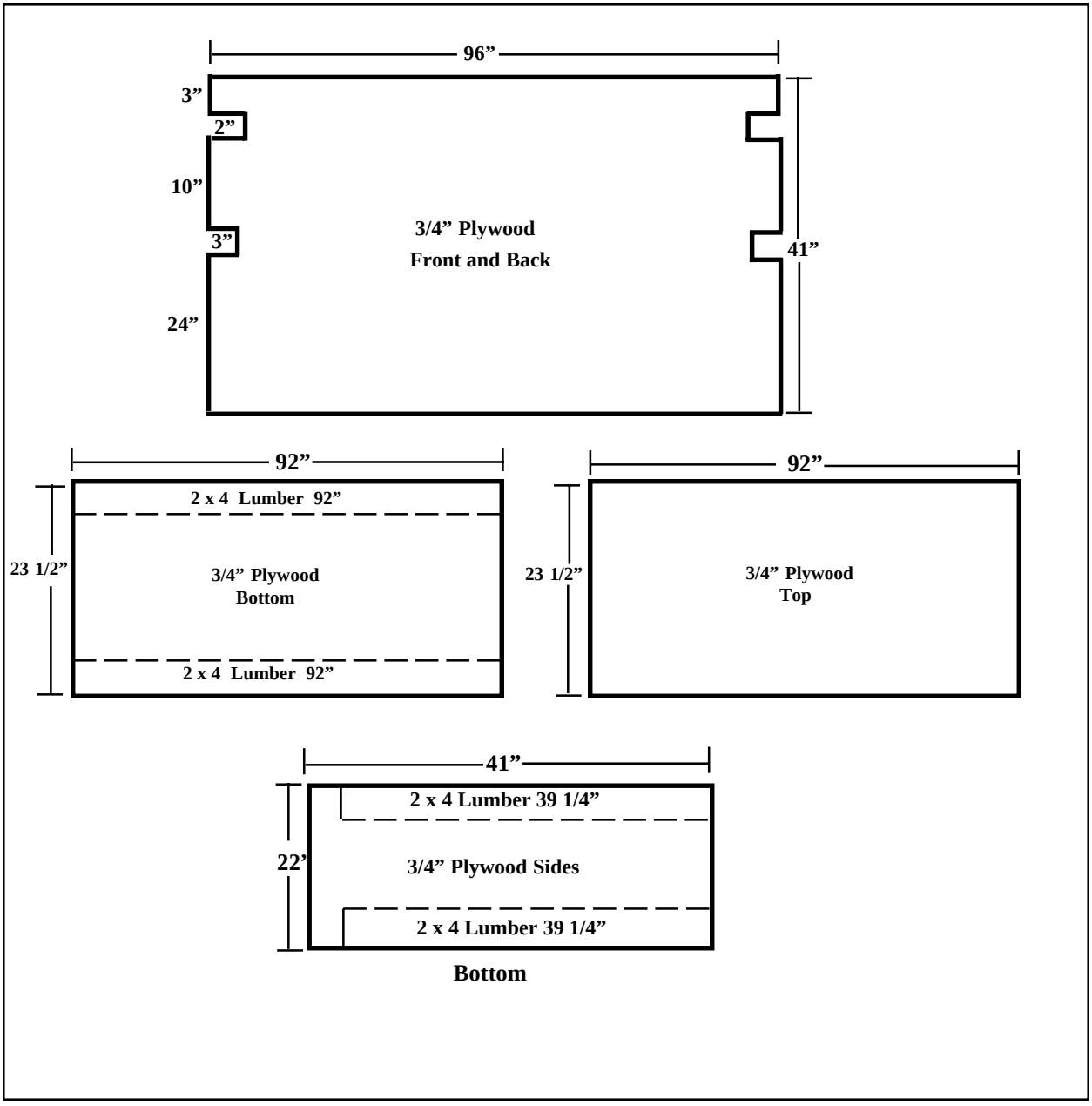
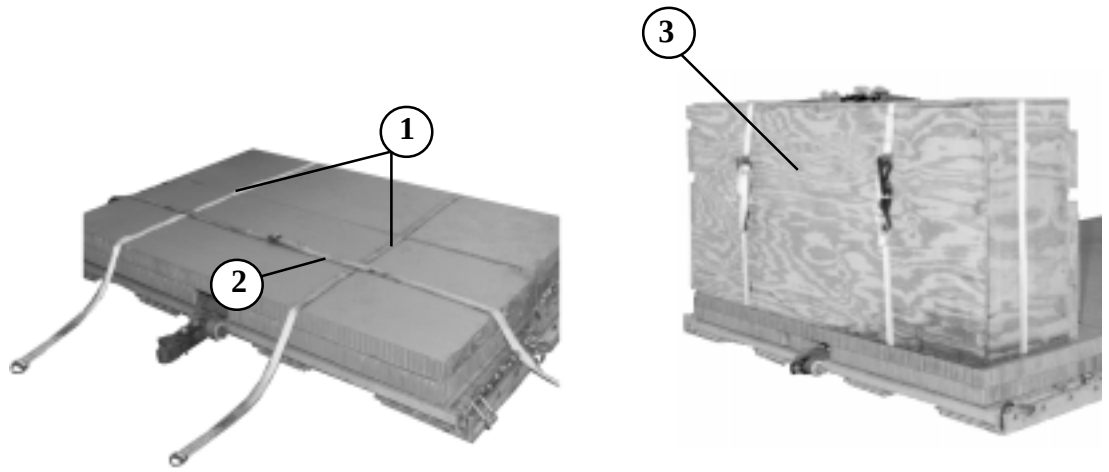


Figure 11-7. Equipment hose box built

11-6. Positioning Equipment Hose Box

Position the equipment hose box on the platform as shown in Figure 11-8.



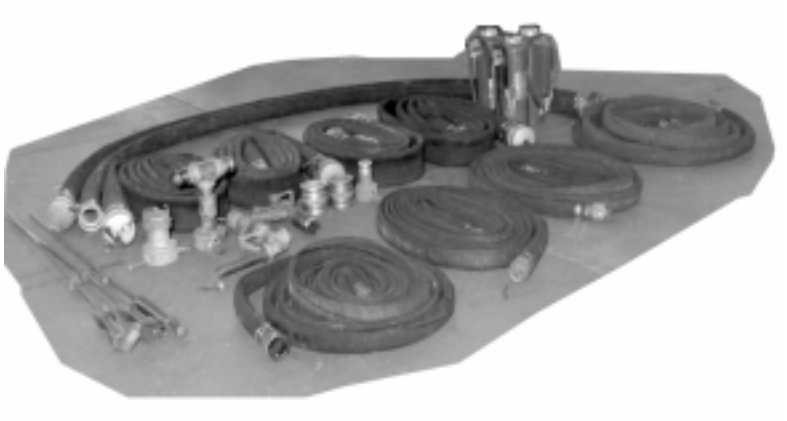
Steps:

1. Position two 15-foot lashings across honeycomb stack 7 approximately 16 inches from the outside edge.
2. Center a 30-foot lashing lengthwise across honeycomb stack 7.
3. Position the equipment hose box on the rear edge of the platform.

Figure 11-8. Equipment hose box positioned on platform

11-7. Storing Equipment in Equipment Hose Box

Store equipment in the equipment hose box as shown in Figure 11-9.



EQUIPMENT HOSE BOX LIST

ITEM DESCRIPTION	QUANTITY
25-foot, 4-inch Hose	4
Aircraft Nozzle	1
Elbow Coupler	1
2-inch to 3-inch Adapter	2
10-foot, 3-inch Hose	2
3-inch to 4-inch Adapter	2
4-inch Male to Male Adapter	3
4-inch to 2-inch Reducer	1
WYE Adapter	1
50-foot, 2-inch Hose	4
Open Port Nozzle	1
Grounding Rod	3

Steps:

1. Place a 91-inch by 23-inch piece of honeycomb in the bottom of the equipment hose box.

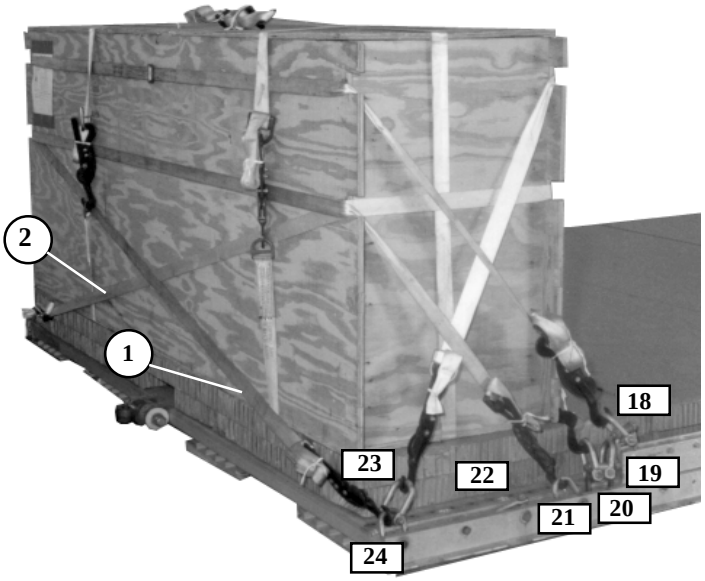
2. Wrap all metal fittings in cellulose wadding. Place all items into equipment hose box.

3. Secure equipment hose box top and secure all lashings.

Figure 11-9. Equipment stored in equipment hose box

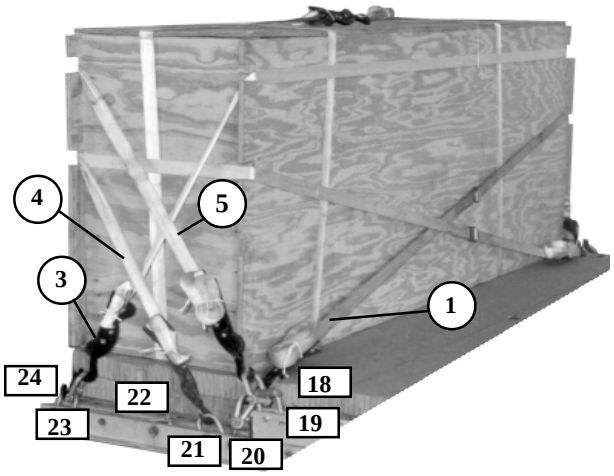
11-8. Lashing Equipment Hose Box to Platform

Lash the equipment hose box to the platform as shown in Figures 11-10 and 11-11.



Lashing Number	Clevis Number	Instructions
1	24	Route a 30-foot lashing from the rear bottom left cutout to clevis 24 to the front bottom left cutout to clevis 20. Ensure lashing is routed under the load binders on the rear of the box.
2	24A	Route a 30-foot lashing from clevis 24A to the front bottom right cutout, to the rear bottom right cutout, to clevis 20A. Ensure lashing is routed under the load binders on the rear of the box (not shown).

Figure 11-10. Lashings 1 and 2 installed

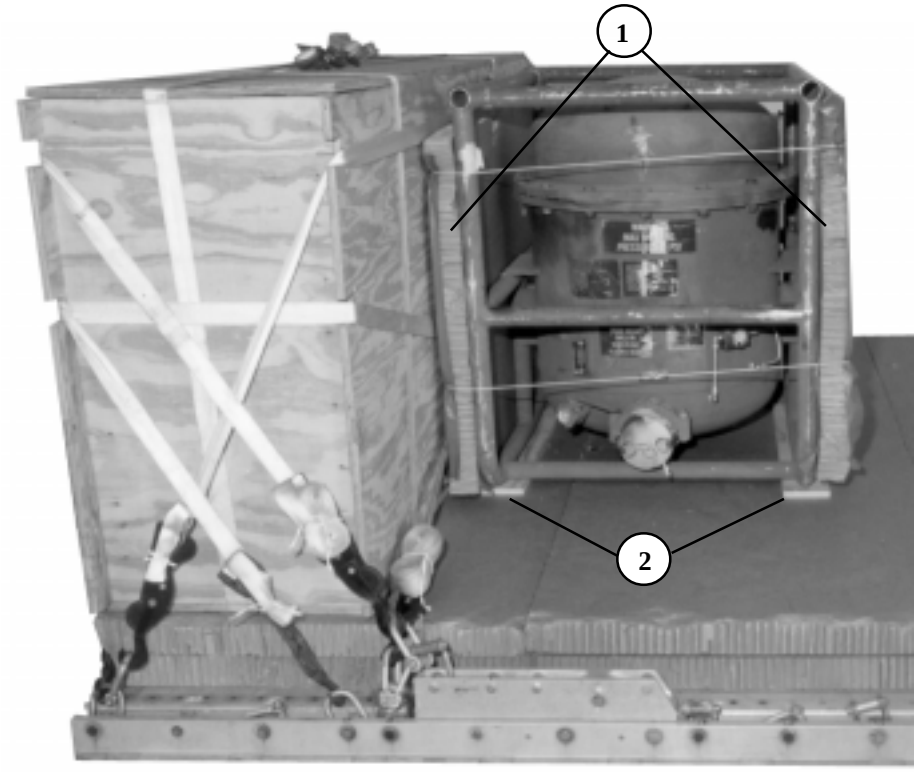


Lashing Number	Clevis Number	Instructions
3	23A	Route a 15-foot lashing through its own D-ring on clevis 23A to the front top cutouts to clevis 23.
4	21A	Route a 15-foot lashing through its own D-ring on clevis 21A to the rear bottom cutouts, to clevis 21.
5	18	Route a 30-foot lashing from the front bottom left cutout to clevis 18 to the rear top right cutouts to the rear top left cutout to clevis 18A. Ensure the lashing is routed under the load binders on the rear of the box.

Figure 11-11. Lashings 3 through 5 installed

11-9. Preparing and Positioning Separator

Prepare and position the fuel separator as shown in Figure 11-12.



Steps:

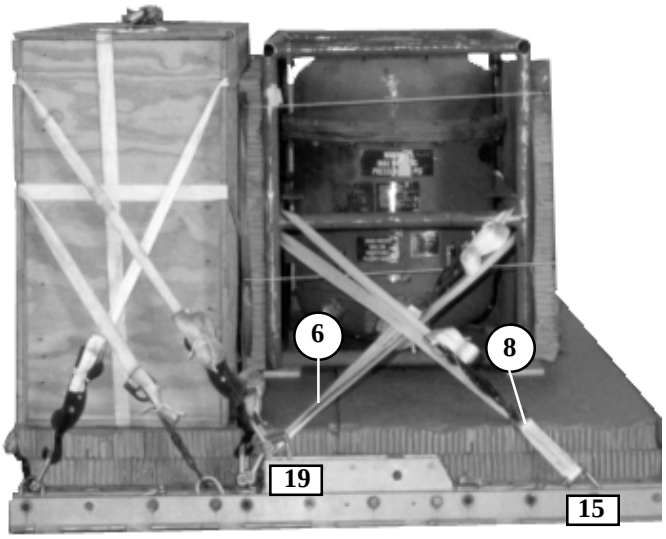
1. Secure a piece of 49 inch by 41-inch honeycomb on each side of the separator. Secure a piece of 64-inch by 33-inch honeycomb on top of the separator, using type III nylon cord (not shown).

2. Position the separator against the front of the equipment hose box and center on the platform. Use two pieces of 3/4-inch by 4 3/4-inch by 36 1/2-inch plywood under the rails of the separator as load spreaders.

Figure 11-12. Fuel separator prepared and positioned

11-10. Lashing Separator to Platform

Lash fuel separator to the platform as shown in Figure 11-13.

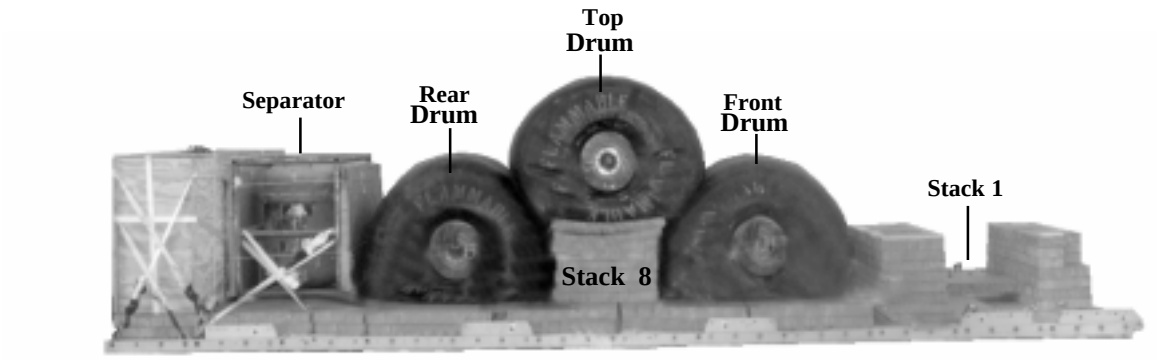


Lashing Number	Clevis Number	Instructions
6	19	Route a 15-foot lashing from clevis 19 around the front right middle cross member.
7	19A	Route a 15-foot lashing from clevis 19A around the front left middle cross member.
8	15	Route a 15-foot lashing around clevis 15 around the right rear middle cross member.
9	15A	Route a 15-foot lashing around clevis 15A around the rear left cross member.

Figure 11-13. Lashings 6 through 9 installed

11-11. Positioning and Lashing the Drums

Position and lash drums as shown in Figures 11-14 and 11-15.



Step:

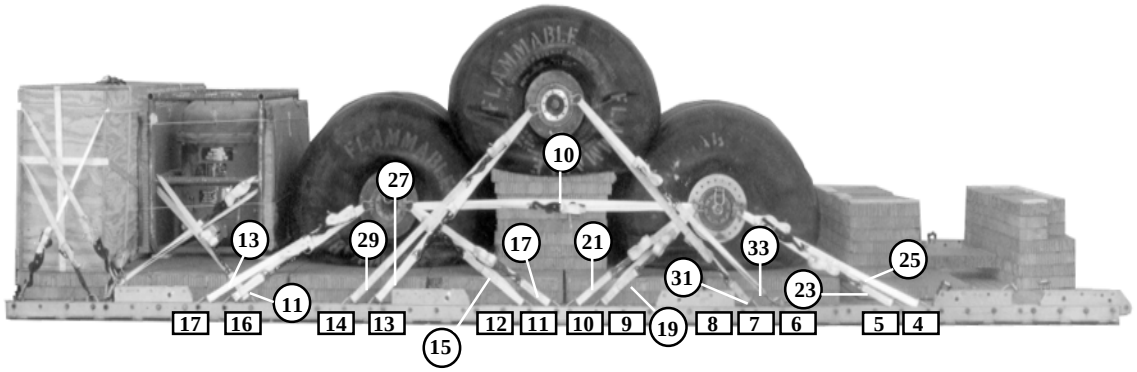
1. Place a platform clevis on one end of two 9-foot (2 loop), type XXVI slings. Attach sling to each side of a drum for lifting purposes only and remove after positioning (not shown).

2. Position the rear drum next to the separator and center on the platform.

3. Position the front drum in front of stack 8 centered on the platform. There should be 6 inches between the drum and stack 1. Stack 8 may need to be moved for placement.

4. Position the top drum centered on top of stack 8 and between the other two drums.

Figure 11-14. Drums positioned



Lashing Number	Clevis Number	Instructions
10		Route a lashing from the front shackle of the rear drum to the rear shackle of the front drum (right side).
11		Route a lashing from the front shackle of the rear drum to the rear shackle of the front drum (left side).
12	16	Route a lashing from clevis 16 to the rear right shackle on the rear drum.
13	16A	Route a lashing from clevis 16A to the rear left shackle on the rear drum.
14	17	Route a lashing from clevis 17 to the rear right shackle on the rear drum.
15	17A	Route a lashing from clevis 17A to the rear left shackle on the rear drum.

Figure 11-15. Lashings 10 through 35 installed

Lashing Number	Clevis Number	Instructions
16	12	Route a lashing from clevis 12 to the front right shackle on the rear drum.
17	12A	Route a lashing from clevis 12A to the front left shackle on the rear drum.
18	11	Route a lashing from clevis 11 to the front right shackle on the rear drum.
19	11A	Route a lashing from clevis 11A to the front left shackle on the rear drum.
20	9	Route a lashing from clevis 9 to the rear right shackle on the front drum.
21	9A	Route a lashing from clevis 9A to the rear left shackle on the front drum.
22	10	Route a lashing from clevis 10 to the rear right shackle on the front drum.
23	10A	Route a lashing from clevis 10A to the rear left shackle on the front drum.
24	5	Route a lashing from clevis 5 to the front right shackle on the front drum.
25	5A	Route a lashing from clevis 5A to the front left shackle on the front drum.

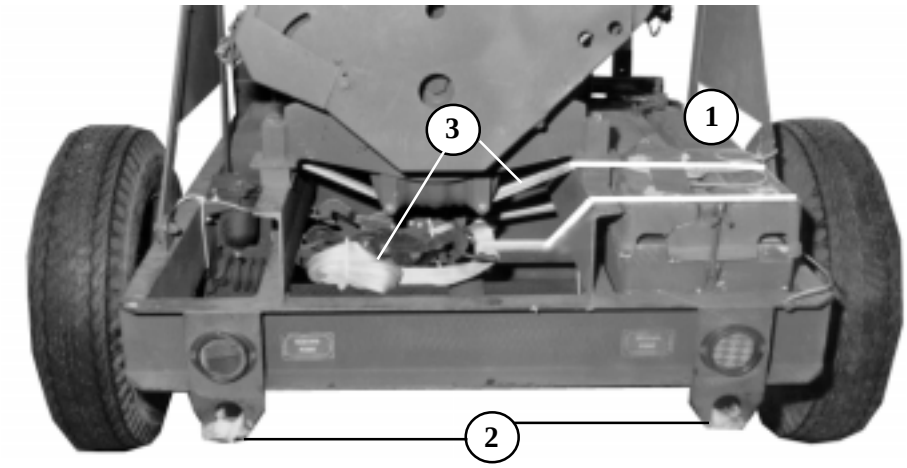
Figure 11-15. Lashings 10 through 35 installed (continued)

Lashing Number	Clevis Number	Instructions
26	4	Route a lashing from clevis 4 to the front right shackle on the front drum.
27	4A	Route a lashing from clevis 4A to the front left shackle on the front drum.
28	13	Route a lashing from clevis 13 to the rear right shackle on the top drum.
29	13A	Route a lashing from clevis 13A to the rear left shackle on the top drum.
30	14	Route a lashing from clevis 14 to the rear right shackle on the top drum.
31	14A	Route a lashing from clevis 14A to the rear left shackle on the top drum.
32	8	Route a lashing from clevis 8 to the front right shackle on the top drum.
33	8A	Route a lashing from clevis 8A to the front left shackle on the top drum.
34	7	Route a lashing from clevis 7 to the front right shackle on the top drum.
35	7A	Route a lashing from clevis 7A to the front left shackle on the top drum.

Figure 11-15. Lashings 10 through 35 installed (continued)

11-12. Preparing and Positioning the Pump

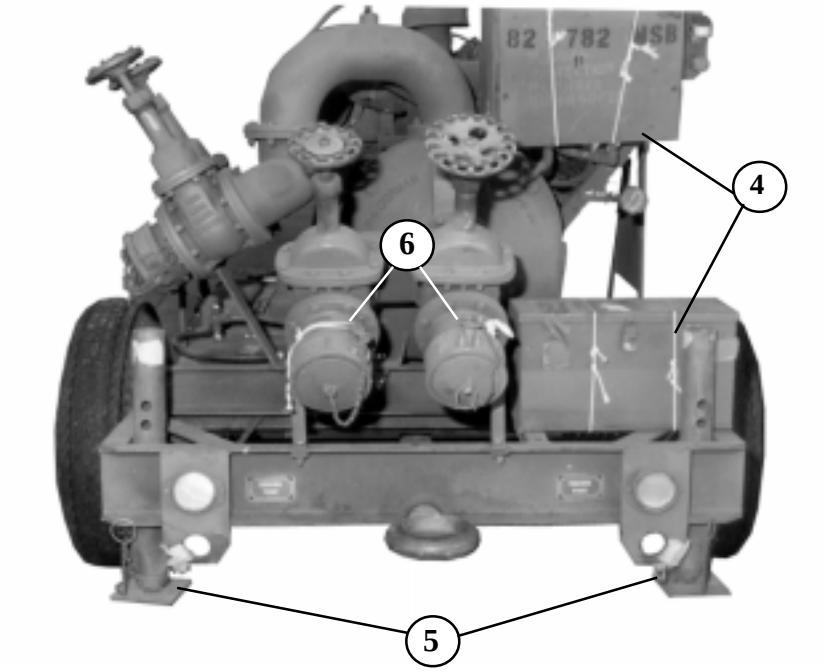
Prepare and position the pump as shown in Figure 11-16.



Step:

1. Roll and tape the ground wire to the pump.
2. Tape cellulose wadding to the tiedown points.
3. Route two 15-foot lashings around the engine mount frames and over the battery box for support.

Figure 11-16. Pump prepared



4. Secure the gauge and original equipment manufacturer boxes with type III nylon cord.

5. Raise the legs and secure with pins.

6. Secure all hose attaching points with type III nylon cord.

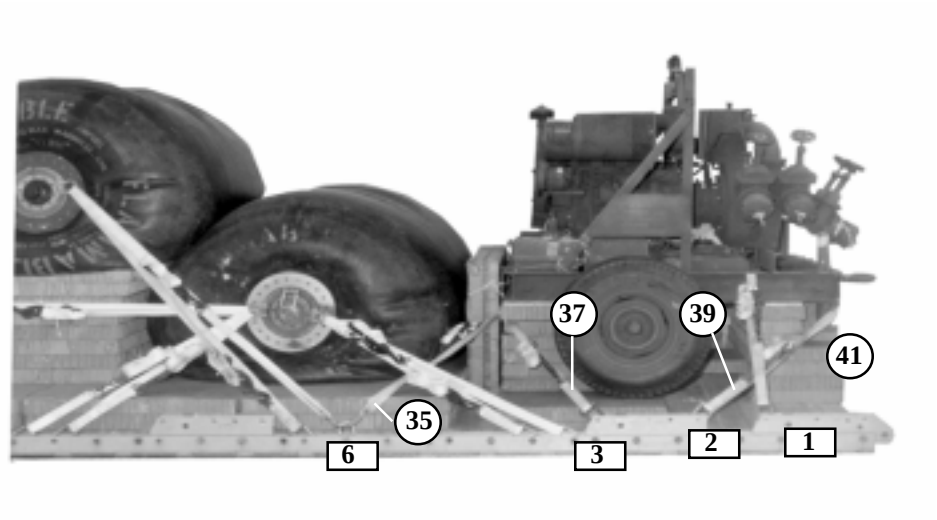
7. Position the pump on stack 1 aligning the front frame edge with the front edge of the platform (shown in Figure 11-17).

8. Ensure the towing lunette is retracted.

Figure 11-16. Pump prepared (continued)

11-13. Lashing Pump to the Platform

Lash the pump to the platform as shown in Figure 11-17.

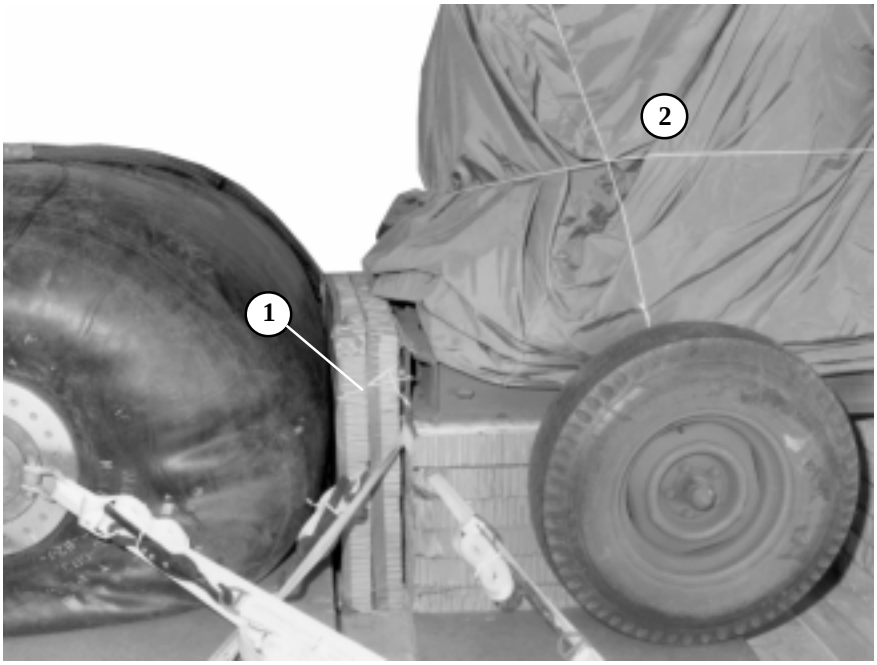


Lashing Number	Clevis Number	Instructions
36	6	Route a 15-foot lashing from clevis 6 to the right rear tiedown point.
37	6A	Route a 15-foot lashing from clevis 6A to the left rear tiedown point.
38	3	Route a 15-foot lashing to the right rear tiedown point.
39	3A	Route a 15-foot lashing to the left rear tiedown point.
40	2	Route a 15-foot lashing to the right front tiedown point.
41	2A	Route a 15-foot lashing to the left front tiedown point.
42	1	Route a 15-foot lashing to the right side frame.
43	1A	Route a 15-foot lashing to the left side frame.

Figure 11-17. Lashings 36 through 43 installed

11-14. Placing Canvas Cover Over Pump

Place a canvas cover over the pump as shown in Figure 11-18.



Step:

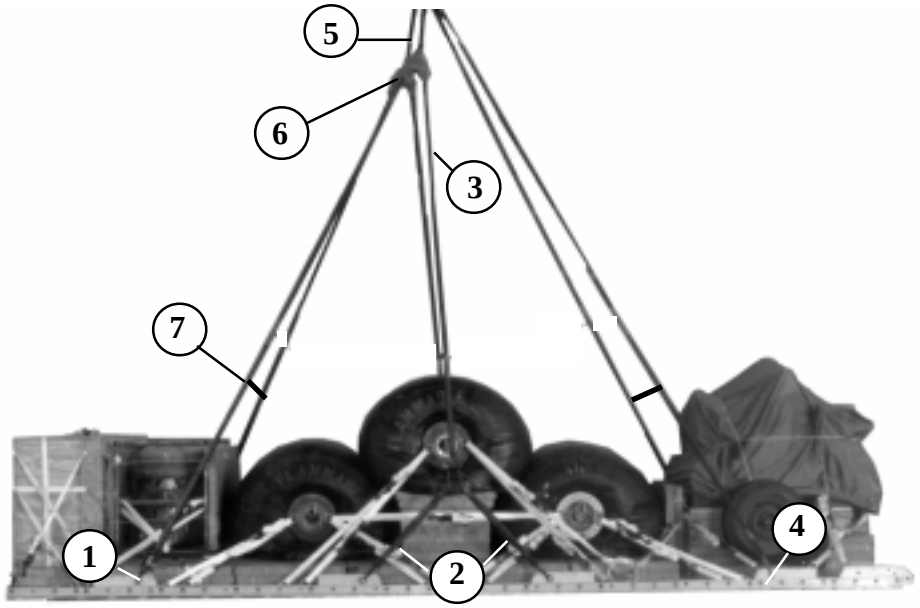
1. Place two pieces of 48-inch by 28-inch honeycomb between the pump and the drum and secure with type III nylon cord.

2. Secure a canvas cover over the pump with type III nylon cord.

Figure 11-18. Canvas cover secured

11-15. Installing Suspension Slings and Safety Tie

Install suspension slings and safety tie as shown in Figure 11-19.



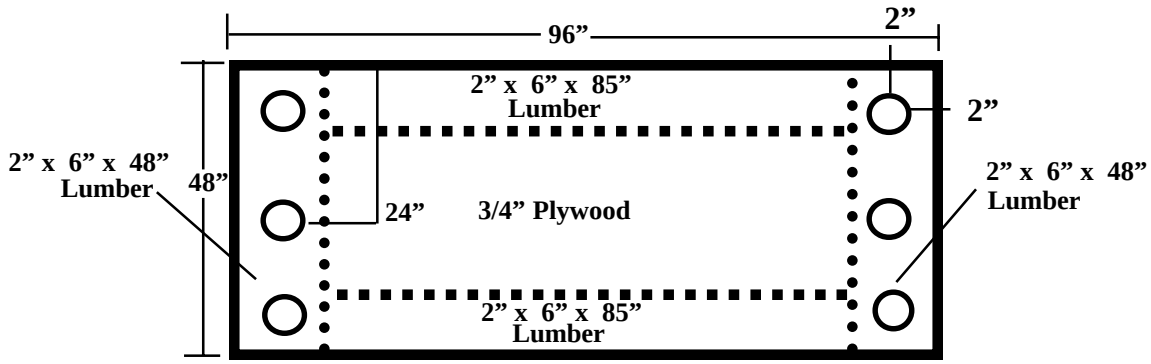
1. Place two large clevises in one end of the two 16-foot (4-loop), type XXVI nylon suspension slings. Attach the clevises to each rear suspension link.
2. Place a large clevis in one end of the four 3-foot (4-loop), type XXVI nylon suspension slings. Attach the large clevis to each of the center suspension links.
3. Place a large clevis in one end of two 9-foot (4-loop), type XXVI nylon suspension slings. Attach the large clevises to the two 3-foot slings on each side of the platform.
4. Place a large clevis in one end of two 20-foot (4-loop), type XXVI nylon suspension slings. Attach the clevis to each front suspension link.
5. Place two 3-foot (4-loop), type XXVI nylon suspension slings on two 3-point links.
6. Attach the 16-foot and 9-foot slings to the 3-point link and tape.
7. Raise the slings and install the safety tie to the front and rear set of suspension slings using double 1/2-inch tubular nylon.

NOTE: This suspension sling configuration is reversed from the configuration in FM 10-500-2/TO 13C7-1-5.

Figure 11-19. Suspension slings and safety tie installed

11-16. Building and Positioning Parachute Stowage Platform

Build and position parachute stowage platform as shown in Figure 11-20. After building the parachute stowage platform, place it on the equipment hose box.

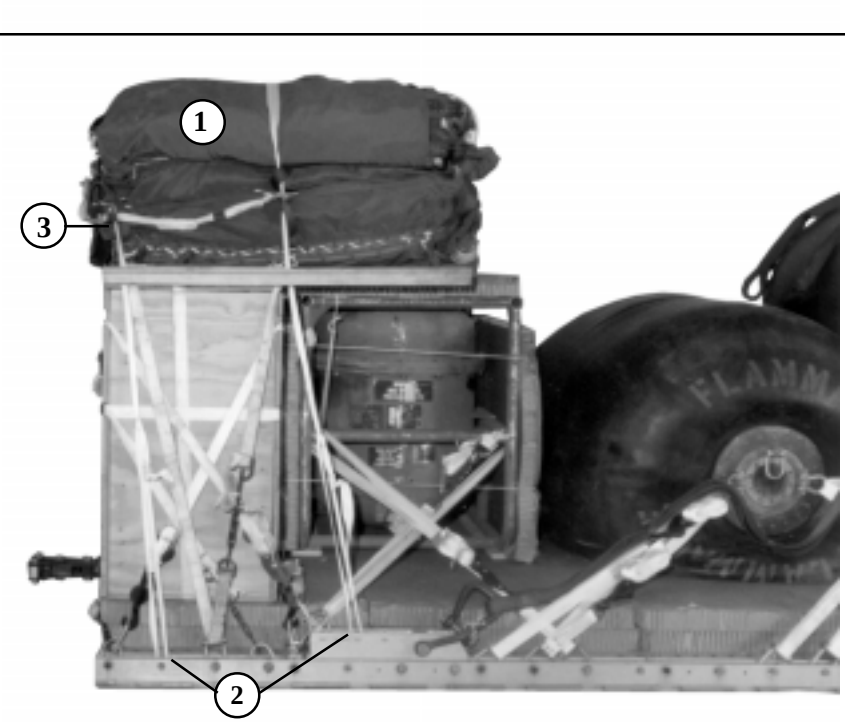


Lashing Number	Clevis Number	Instructions
44	22	Route a 15-foot lashing from clevis 22 through both rear right holes in the stowage platform.
45	22A	Route a 15-foot lashing from clevis 22A through both rear left holes in the stowage platform.

Figure 11-20. Lashings 44 and 45 installed

11-17. Preparing and Stowing Cargo Parachutes

Prepare and stow cargo parachutes as shown in Figure 11-21.



Step:

1. Prepare and stow four G-11 cargo parachutes in accordance with FM 10-500-2/ TO 13C7-1-5.

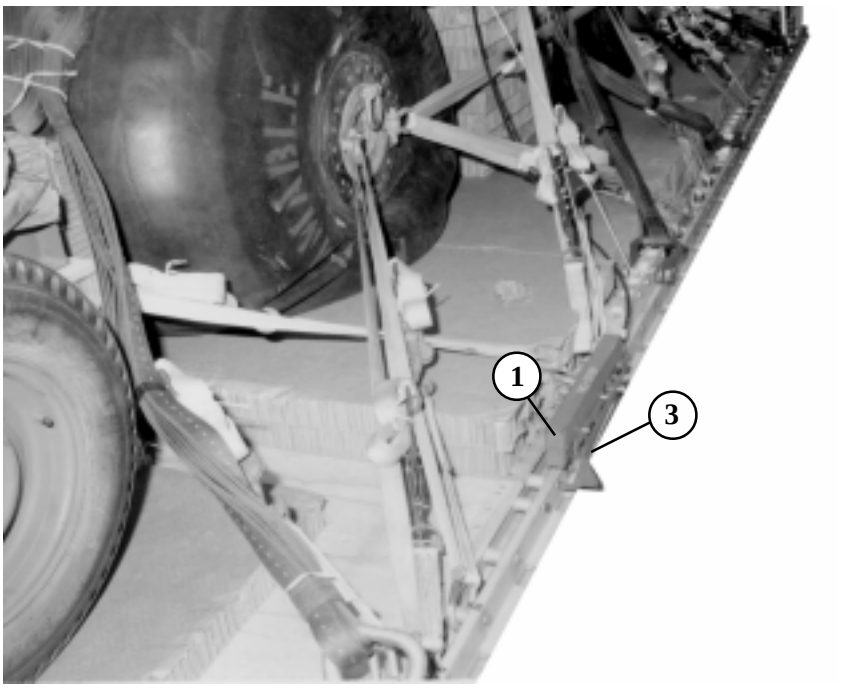
2. Restrain the parachutes using bushings 47A and 47 on the platform and bushings 3A and 3 on the rear suspension link.

3. Install the multicut parachute release strap in accordance with FM 10-500-2/ TO13C7-1-5.

Figure 11-21. Cargo parachutes prepared and stowed

11-18. Installing the Extraction System

Install the extraction system as shown in Figure 11-22.



(1) Install the extraction force transfer coupling in accordance with FM 10-500-2/ TO 13C7-1-5.

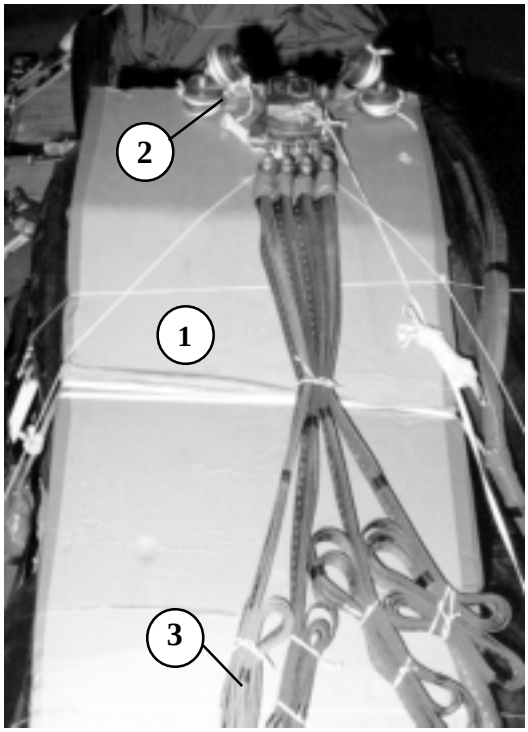
(2) Attach a 9-foot (2-loop), type XXVI nylon sling for use as a deployment line (not shown).

(3) Use the rear mounting holes for the EFTC bracket and a 24-foot cable.

Figure 11-22. Extraction system installed

11-19. Installing the Release System

Install the release system as shown in Figure 11-23.



Step:

1. Place and secure a 96-inch by 24-inch piece of honeycomb from the separator to the top of the top drum.

2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold and tie any slack in the suspension slings with 1/4-inch cotton webbing.

Figure 11-23. Release system installed

11-20. Installing Provisions for Emergency Restraints

Select and install provisions for the emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/ TO 13C7-1-5.

11-21. Placing Extraction Parachutes

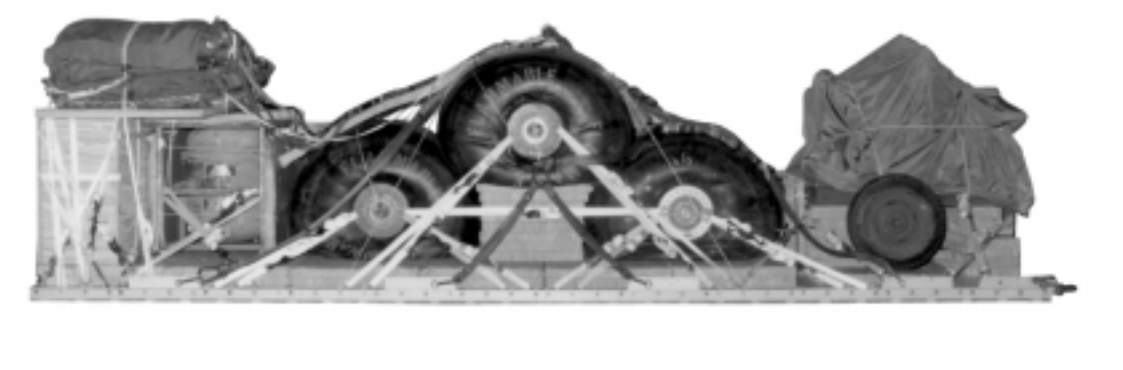
Select the extraction parachutes and extraction line needed using the extraction line requirements table in FM 10-500-2/ TO 13C7-1-5. Place the extraction line on the load for installation in aircraft.

11-22. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-24. Complete Shippers's Declaration for Dangerous Goods form. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

11-23. Equipment Required

Use the equipment listed in Table 11-1 to rig this load.



RIGGED LOAD DATA

WEIGHT _ 19,689 POUNDS

MAXIMUM WEIGHT _ 20,689 POUNDS

HEIGHT _ 89 INCHES

WIDTH _ 108 INCHES

LENGTH _ 324 INCHES

OVERHANG _ FRONT 18 INCHES
REAR 18 INCHES

CENTER OF BALANCE: FROM THE FRONT EDGE OF THE PLATFORM:
144 INCHES

Figure 11-24. Three 500- gallon drums with a pump and separator rigged

Table 11-1. Equipment required for rigging three 500-gallon drums with a pump separator for low velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As Required
4030-00-090-5354	Clevis, suspension, 1-in (large)	9
8305-00-242-3593	Cloth, cotton duck, 60-in	As Required
4020-00-240-2146	Cord, nylon III, 550-lb	As Required
1670-00-434-5782	Coupling, airdrop, extraction force transfer with cable, 24ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	1
8135-00-664-6958	Cushioning material, packaging,cellulose wadding	As Required
1670-01-183-2678	Leaf, extraction line, (line bag)	2
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI (for C130)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C141, C5, and C17)	1
1670-01-064-4452	Line, drouge (C17) 60-ft (1-loop), type XXVI	1
	Link assembly:	
1670-00-783-2752	Three-point, 5 1/2-in	2
1670-00-783-5988	Type IV	1
	Two-point	1
5306-00-435-8994	Bolt, 1-in diam, 4-in long	1
5310-00-232-5165	Nut, 1-in, hexagonal	1
1670-00-003-3454	Plate, side, 5 1/2-in	1
1670-00-007-3414	Space, large	1

Table 11-1. Equipment required for rigging three 500-gallon drums with a pump separator for low velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	35 sheets
5530-00-618-8073	Plywood, 3/4-in	4 sheets
5510-00-220-6146	Lumber, 2 by 4-in	As required
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	4
	Cargo Extraction	
1670-00-040-8135	28ft	1
1670-01-063-3715	Drouge, 15-ft (C17), with tow plate link	1
	Platform, airdrop, type V, 28ft	1
1670-01-353-8425	Bracket assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	53
1670-01-353-8424	Extraction bracket assembly	1
1670-01-247-2389	Suspension link	8
1670-01-162-2381	Tandem Link	2
1670-01-097-8816	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	Suspension and lifting:	
1670-01-062-6308	16-ft (4-loop),type XXVI nylon webbing	2
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	6
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For extension:	
1670-01-062-6314	60-ft (3-loop), type XXVI nylon webbing	4

Table 11-1. Equipment required for rigging three 500-gallon drums with a pump separator for low velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
1670-01-062-6305	Link, assembly, coupling, 3-point	2
1670-00-040-8219	Knife, multi, strap, parachute release	2
7510-00-266-5016	Tape, PSA, cloth back, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	53
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

SECTION II

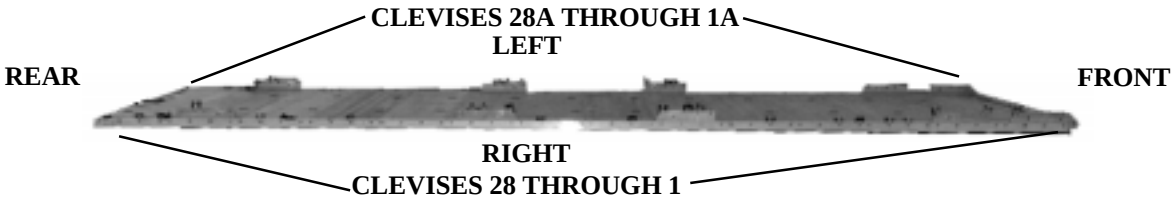
RIGGING FOUR 500-GALLON DRUMS

11-24. Description of Load

The four collapsible drums are rigged on a 28-foot, type V platform with five G-11 cargo parachutes. Each drum is filled with 432 gallons of liquid. Each drum weighs 3,832 pounds and is 62 inches long and 53 inches in diameter. The four drums also have a 350-GPM pump with a separator and hose box as an accompanying load. The total rigged load has a maximum weight of 25,658 pounds with a width of 108 inches and a length of 376 inches. It has an overhang of 18 inches in the front and 22 inches in the rear. The load has a center balance of 172 inches. If the drums are filled with fuel, the weight must be computed using the conversion table shown in Figure 11-1.

11-25. Preparing the Platform

Prepare a 28-foot, type V platform using two tandem multipurpose links, eight suspension links and 68 tiedown clevises as shown in Figure 11-25.



Steps:

1. Install a tandem multi-purpose link to each platform side rail using holes 1, 2, and 3.
2. Install a suspension link to each platform side rail using holes 6, 7, and 8.
3. Install a suspension link to each side rail using holes 22, 23, and 24.
4. Install a suspension link to each side rail using holes 33, 34, and 35.
5. Install a suspension link to each side rail using holes 49, 50, and 51.
6. Install a clevis on bushing 4 on each of the front tandem links.
7. Install a clevis on bushing 1 on each of the first suspension links.
8. Install a clevis on bushing 4 on each of the first suspension links.
9. Install a clevis on bushing 2 on each of the second suspension links.
10. Install a clevis on bushing 3 on each of the second suspension links.
11. Install a clevis on bushing 4 on each of the second suspension links.
12. Install a clevis on bushing 1 on each of the third suspension links.
13. Install a clevis on bushing 2 on each of the third suspension links.
14. Install a clevis on bushing 3 on each of the third suspension links.
15. Install a clevis on bushing 3 on each of the fourth suspension links.
16. Starting at the front of each platform side rail install clevises on the bushings bolted on holes 10, 11,13, 14, 18, 26, 31, 42, 43, 46 (doubled), 47, 52 (tripled), 53, 54, and 56 (doubled).
17. Starting at the front of the platform number the clevises 1 through 28 on the right side and 1A through 28A on the left side.

NOTE: Use the clevis on bushing 46 as clevises 20, 20A and the doubled clevises as 19, and 19A.

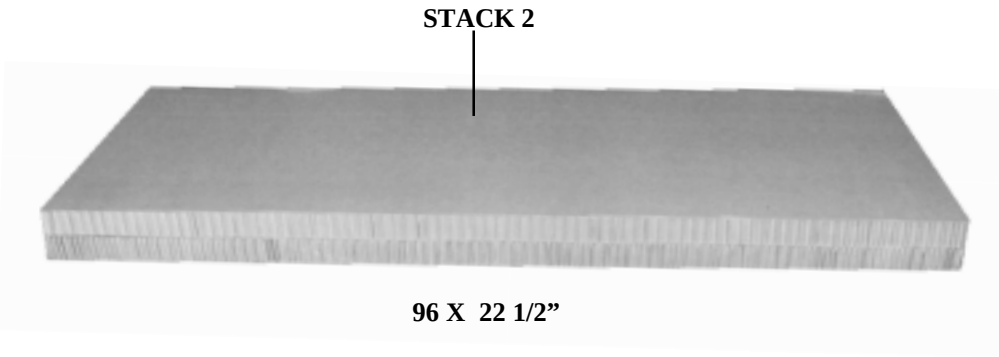
NOTE: Use the clevis on bushing 56 as clevises 28, 28A and the doubled clevises as 27, and 27A.

NOTE: A doubled clevis has one clevis attached to the bushing and another clevis attached to the first clevis. A tripled clevis has one clevis attached to the bushing and two clevises attached to the first clevis.

Figure 11-25. Platform prepared

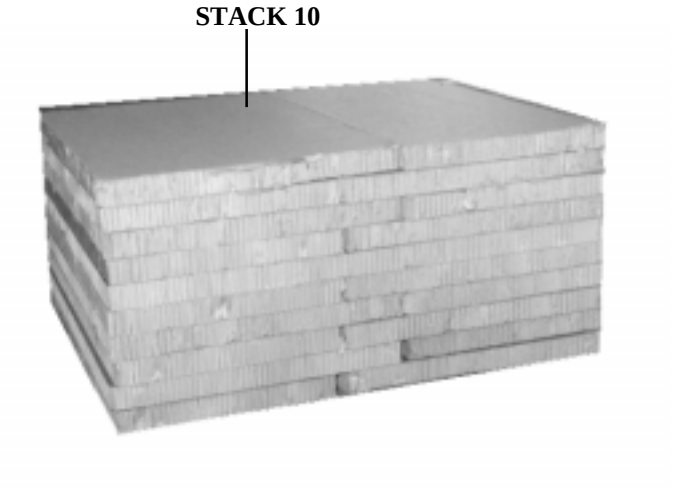
11-26. Preparing Honeycomb Stacks

Build honeycomb stacks as shown in Figures 11-3 and 11-4 and Figures 11-26 and11-27.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	Prepare honeycomb stack 1 as shown in Figure 11-3.				
2	2	96	22 1/2	Honeycomb	Glue together.
3-9	Prepare honeycomb stacks 3 through 9 as shown in Figures 11-4.				

Figure 11-26. Honeycomb stacks 1 through 9 prepared

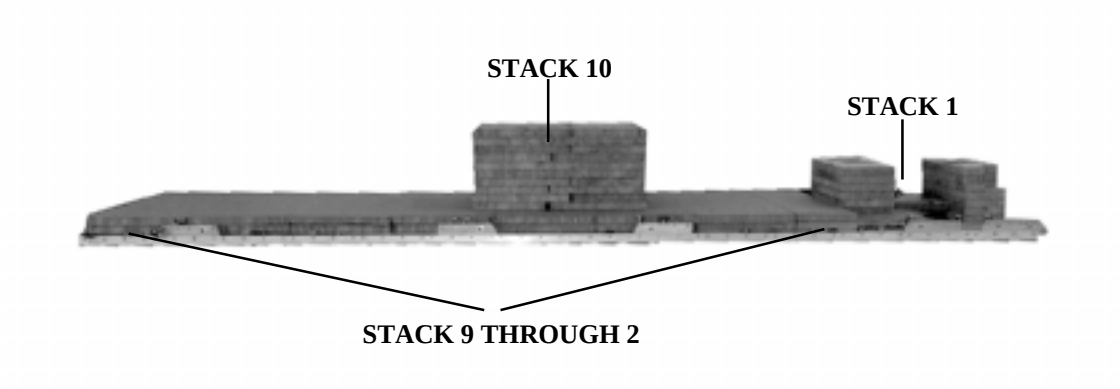


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
10	10	56	36	Honeycomb	Lay a piece of 56 x 36-inch honeycomb on the floor next to another piece of 56 x 28-inch honeycomb forming a base. Alternate the pieces and glue on top of the base. Form a stack of 10 layers.
	10	56	28	Honeycomb	Repeat instructions listed above.

Figure 11-27. Honeycomb stack 10 prepared

11-27. Positioning Honeycomb Stacks

Position honeycomb stacks as shown in Figure 11-28.



Steps:

1. Position stack 1 on the front edge of the platform and centered.
2. Position stacks 2 through 9 flush on the rear edge of stack 1 placed flush with each other.
3. Position stack 10 centered at 172 inches from the front of the platform. Ensure the 64-inch length is aligned with the side rails.

Figure 11-28. Honeycomb stacks positioned

11-28. Building the Equipment Hose Box

Build the equipment hose box as shown in Figure 11-7.

11-29. Positioning Equipment Hose Box

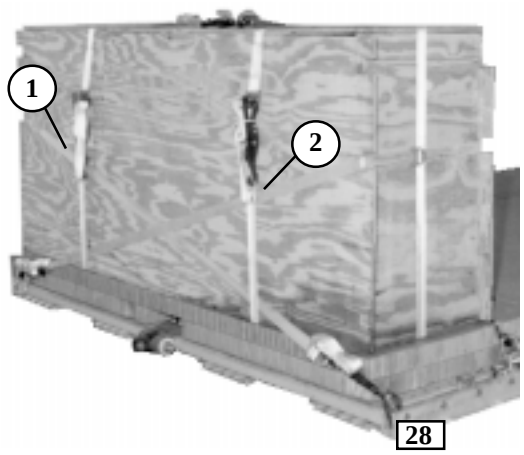
Position the equipment hose box on stack 9 as shown in Figure 11-8.

11-30. Storing Equipment in Equipment Hose Box

Store equipment in the equipment hose box as shown in Figure 11-9.

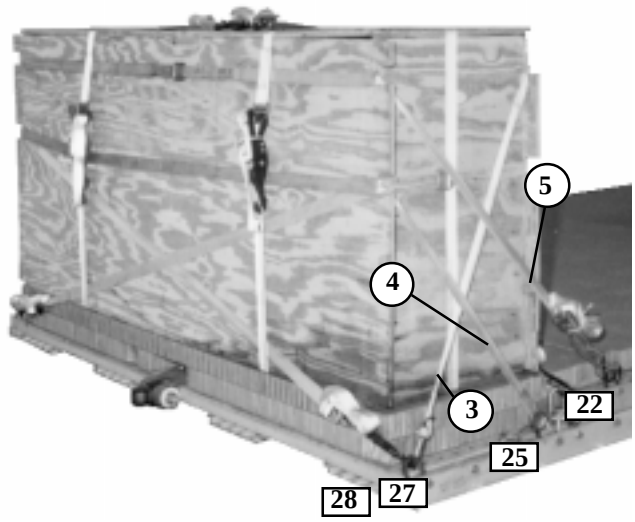
11-31. Lashing Equipment Hose Box to Platform

Lash the equipment hose box to the platform as shown in Figures 11-29 and 11-30.



Lashing Number	Clevis Number	Instructions
1	28	Route a 30-foot lashing from clevis 28 to the rear bottom left cutout, to the front bottom left cutout, to clevis 24. Ensure lashing is routed under the load binders on the rear of the box.
2	28A	Route a 30-foot lashing from clevis 28A to the rear bottom right cutout, to the front bottom right cutout, to clevis 24A. Ensure lashing is routed under the load binders on the rear of the box.

Figure 11-29. Lashings 1 and 2 installed



Lashing Number	Clevis Number	Instructions
3	27	Route a 15-foot lashing through its own D-ring on clevis 27 to the front top cutouts, to clevis 27A.
4	25	Route a 15-foot lashing through its own D-ring on clevis 25 to the rear bottom cutouts, to clevis 25A.
5	22	Route a 30-foot lashing from clevis 22 through the rear top cutouts, to clevis 22A.

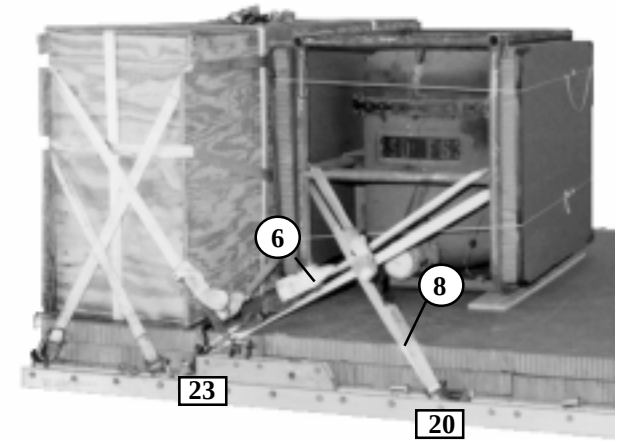
Figure 11-30. Lashings 3 through 5 installed

11-32. Preparing and Positioning Fuel Separator

Prepare and position the fuel separator as shown in Figure 11-12.

11-33. Lashing Fuel Separator to Platform

Lash fuel separator to the platform as shown in Figure 11-31.

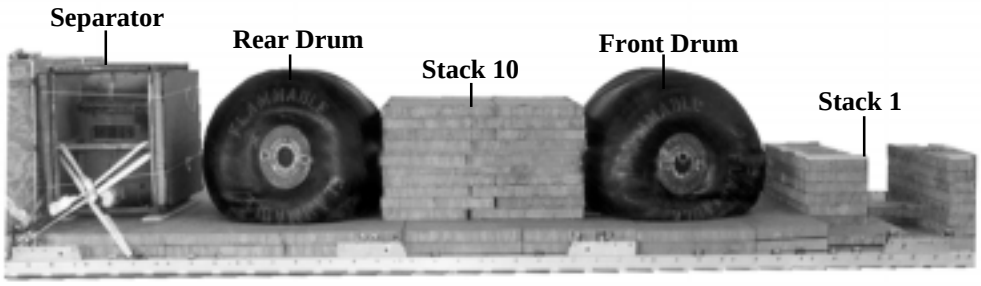


Lashing Number	Clevis Number	Instructions
6	23	Route a 15-foot lashing from clevis 23 around the front right middle cross member.
7	23A	Route a 15-foot lashing from clevis 23A around the front left middle cross member.
8	20	Route a 15-foot lashing from clevis 20 around the rear right middle cross member.
9	20A	Route a 15-foot lashing from clevis 20A around the rear left middle cross member.

Figure 11-31. Lashings 6 through 9 installed

11-34. Positioning and Lashing the Drums

Position and lash drums as shown in Figures 11-32 though 11-37.



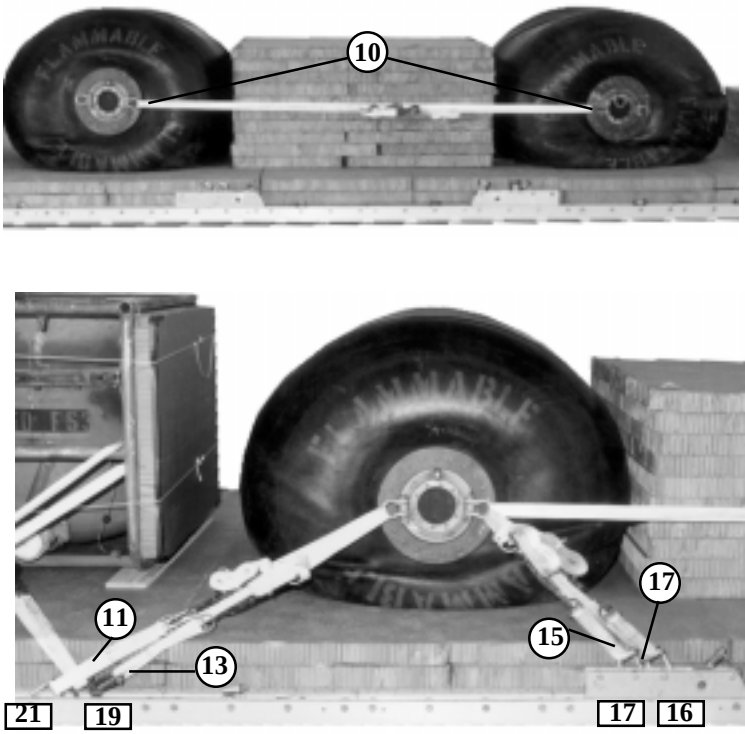
Steps:

1. Place a platform clevis on one end of two 9-foot (2 loop), type XXVI slings. Attach sling to each side of a drum for lifting purposes only and remove after positioning (not shown).

2. Position the rear drum next to the separator and center on the platform. Stack 10 may need to be moved for placement. There should be 6 inches between the drum and the separator.

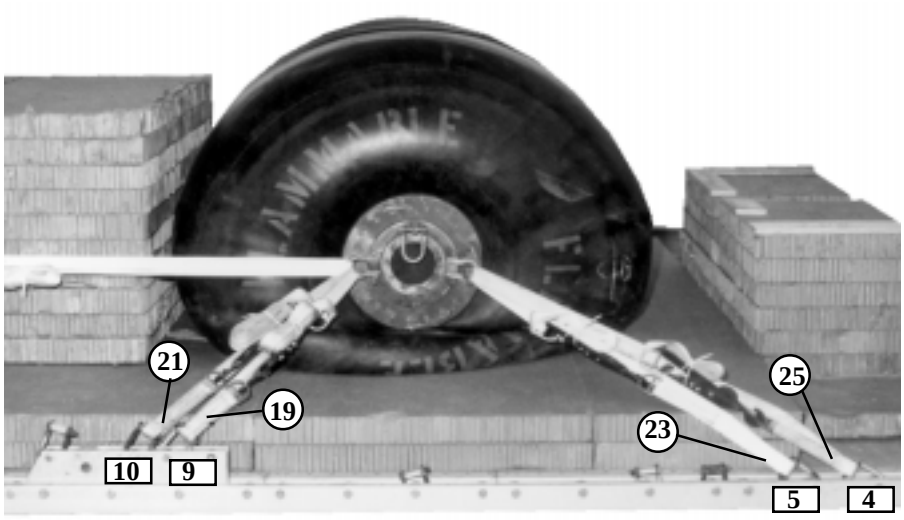
3. Position the front drum in front of stack 10 and center on the platform. There should be 6 inches between the fuel drum and stack 1.

Figure 11-32. Rear and front drums positioned



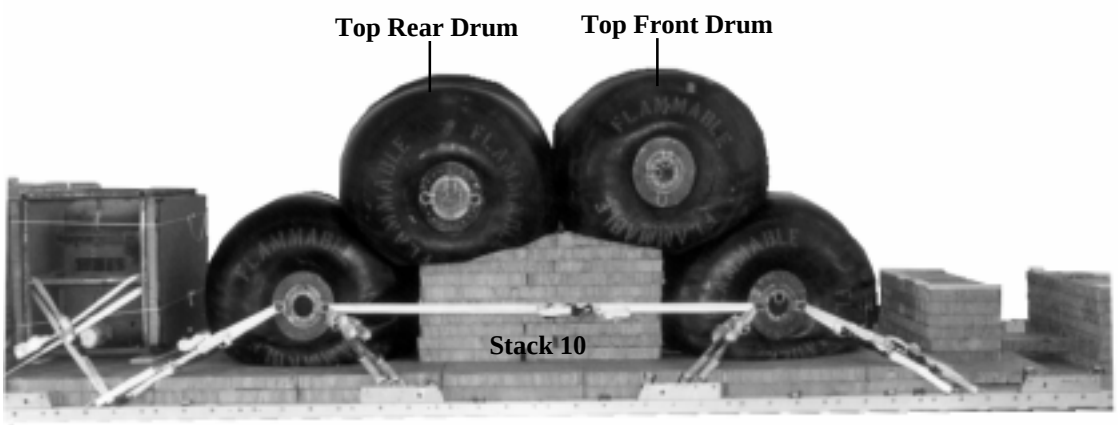
Lashing Number	Clevis Number	Instructions
10		Route a 30-foot lashing from the front shackle of the rear drum to the rear shackle of the front drum, on the right and left sides.
11	21	Route a 15-foot lashing from clevis 21 to the rear right shackle on the rear drum.
12	21A	Route a 15-foot lashing from clevis 21A to the rear left shackle on the rear drum.
13	19	Route a 15-foot lashing from clevis 19 to the rear right shackle on the rear drum.
14	19A	Route a 15-foot lashing from clevis 19A to the rear left shackle on the rear drum.
15	17	Route a 15-foot lashing from clevis 17 to the front right shackle on the rear drum.
16	17A	Route a 15-foot lashing from clevis 17A to the front left shackle on the rear drum.
17	16	Route a 15-foot lashing from clevis 16 to the front right shackle on the rear drum.
18	16A	Route a 15-foot lashing from clevis 16A to the front left shackle on the rear drum.

Figure 11-33. Lashings 10 through 18 installed



Lashing Number	Clevis Number	Instructions
19	9	Route a 15-foot lashing from clevis 9 to the rear right shackle on the front drum.
20	9A	Route a 15-foot lashing from clevis 9A to the rear left shackle on the front drum.
21	10	Route a 15-foot lashing from clevis 10 to the rear right shackle on the front drum.
22	10A	Route a 15-foot lashing from clevis 10A to the rear left shackle on the front drum.
23	5	Route a 15-foot lashing from clevis 5 to the front right shackle on the front drum.
24	5A	Route a 15-foot lashing from clevis 5A to the front left shackle on the front drum.
25	4	Route a 15-foot lashing from clevis 4 to the front right shackle on the front drum.
26	4A	Route a 15-foot lashing from clevis 4A to the front left shackle on the front drum.

Figure 11-34. Lashings 19 through 26 installed

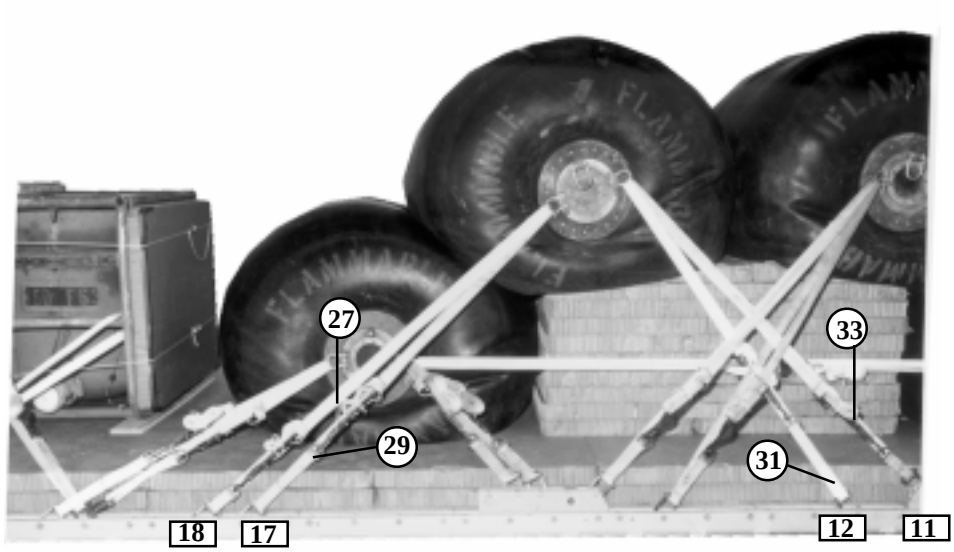


Steps:

1. Position the top rear drum to the rear of stack 10.

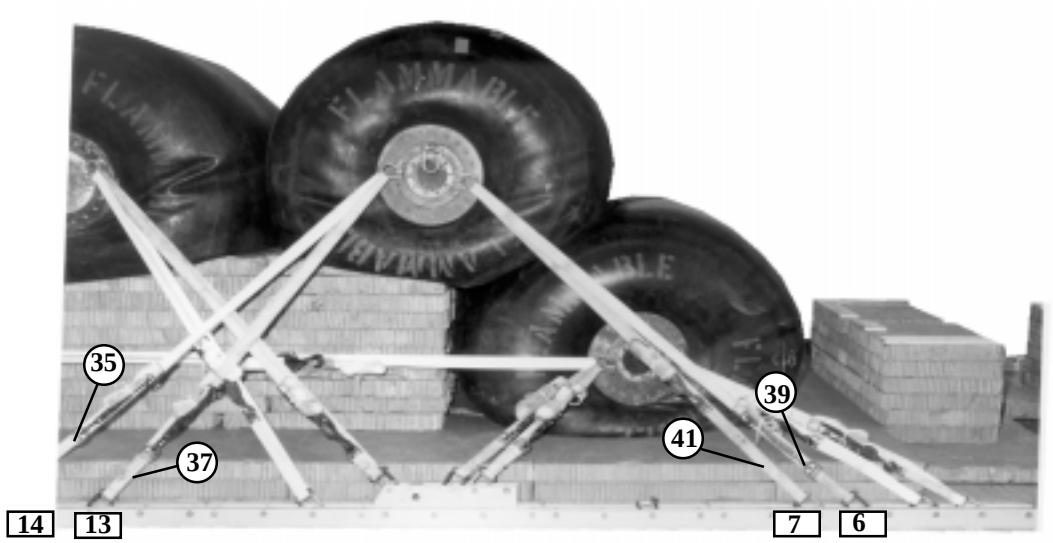
2. Position the top front drum to front of stack 10. Ensure each drum is equally placed on stack 10.

Figure 11-35. Top rear and top front drums positioned



Lashing Number	Clevis Number	Instructions
27	18	Route a 15-foot lashing from clevis 18 to the rear right shackle on the top rear drum.
28	18A	Route a 15-foot lashing from clevis 18A to the rear left shackle on the top rear drum.
29	17	Route a 15-foot lashing from clevis 17 to the rear right shackle on the top rear drum.
30	17A	Route a 15-foot lashing from clevis 17A to the rear left shackle on the top rear drum.
31	12	Route a 15-foot lashing from clevis 12 to the front right shackle on the top rear drum.
32	12A	Route a 15-foot lashing from clevis 12A to the front left shackle on the top rear drum.
33	11	Route a 15-foot lashing from clevis 11 to the front right shackle on the top rear drum.
34	11A	Route a 15-foot lashing from clevis 11A to the front left shackle on the top rear drum.

Figure 11-36. Lashings 27 through 34 installed



Lashing Number	Clevis Number	Instructions
35	14	Route a 15-foot lashing from clevis 14 to the rear right shackle on the top front drum.
36	14A	Route a 15-foot lashing from clevis 14A to the rear left shackle on the top front drum.
37	13	Route a 15-foot lashing from clevis 13 to the rear right shackle on the top front drum.
38	13A	Route a 15-foot lashing from clevis 13A to the rear left shackle on the top front drum.
39	6	Route a 15-foot lashing from clevis 6 to the front right shackle on the top front drum.
40	6A	Route a 15-foot lashing from clevis 6A to the front left shackle on the top front drum.
41	7	Route a 15-foot lashing from clevis 7 to the front right shackle on the top front drum.
42	7A	Route a 15-foot lashing from clevis 7A to the front left shackle on the top front drum.

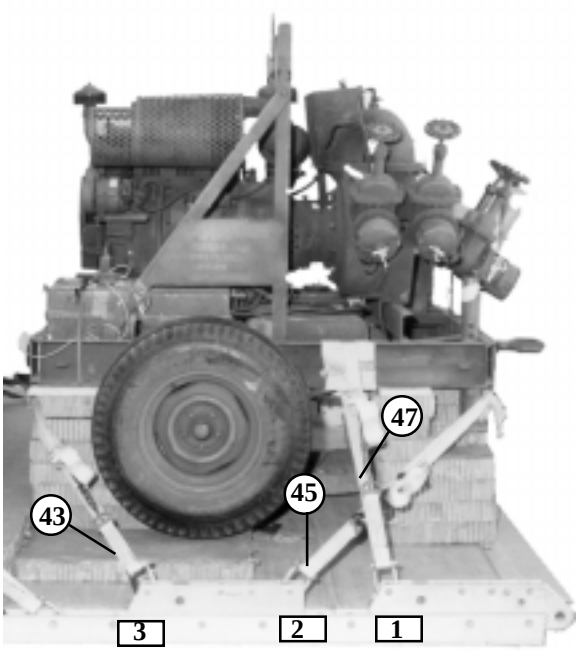
Figure 11-37. Lashings 35 through 42 installed

11-35. Preparing and Positioning the Pump

Prepare and position the pump as shown in Figure 11-16.

11-36. Lashing Pump to Platform

Lash the pump to platform as shown in Figure 11-38.



Lashing Number	Clevis Number	Instructions
43	3	Route a 15-foot lashing from clevis 3 to the right rear tiedown point.
44	3A	Route a 15-foot lashing from clevis 3A to the left rear tiedown point.
45	2	Route a 15-foot lashing from clevis 2 to the right front tiedown point.
46	2A	Route a 15-foot lashing from clevis 2A to the left front tiedown point.
47	1	Route a 15-foot lashing from clevis 1 to the right side frame.
48	1A	Route a 15-foot lashing from clevis 1A to the left side frame.
49	8	Route a 15-foot lashing from clevis 8 to the right rear tiedown point (not shown).
50	8A	Route a 15-foot lashing from clevis 8A to the left rear tiedown point.

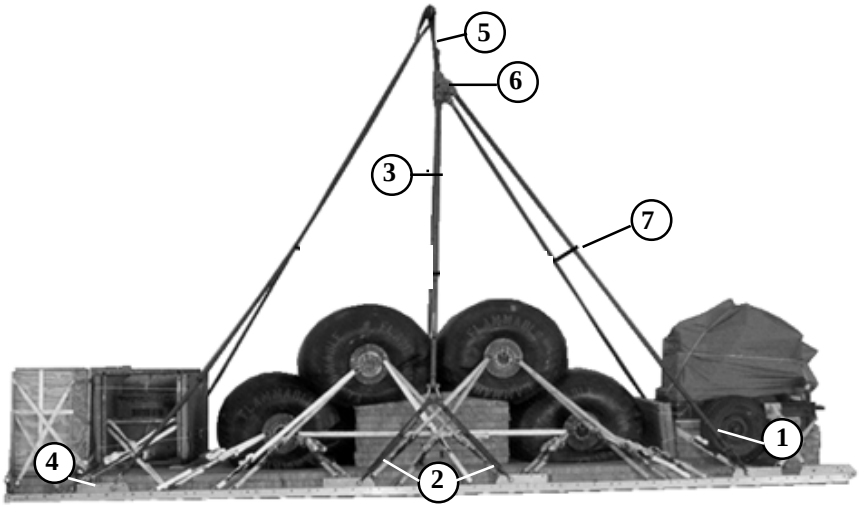
Figure 11-38. Lashings 43 through 50 installed

11-37. Placing Canvas Cover Over Pump

Place a canvas cover over the pump as shown in Figure 11-18.

11-38. Installing Suspension Slings and Safety Tie

Install suspension slings and safety tie as shown in Figure 11-39.

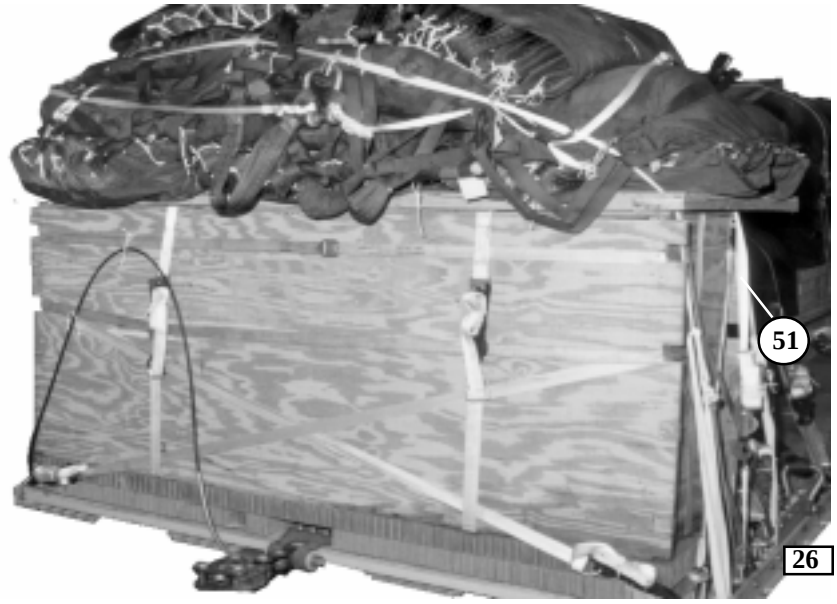


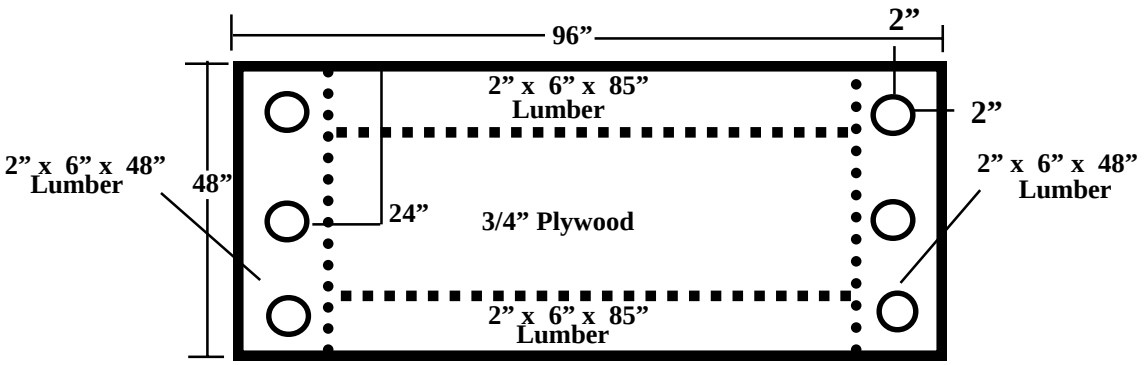
1. Place two large clevises in one end of two16-foot (4-loop), type XXVI nylon suspension slings. Attach the clevis to each front suspension link.
2. Place a large clevis in one end of the four 3-foot (4-loop), type XXVI nylon suspension slings. Attach the large clevis to each of the center suspension links.
3. Place a large clevis in one end of two 9-foot (4-loop), type XXVI nylon suspension slings. Attach the large clevises to the two 3-foot slings on each side of the platform.
4. Place a large clevis in one end of two 20-foot (4-loop), type XXVI nylon suspension slings. Attach the clevis to each rear suspension link.
5. Place two 3-foot (4-loop), type XXVI nylon suspension slings on two 3-point links.
6. Attach the 16-foot and 9-foot slings to the 3-point link and tape.
7. Raise the slings and install the safety tie to the front and rear set of suspension slings using double 1/2-inch tubular nylon.

Figure 11-39. Suspension slings and safety tie installed

11-39. Building and Positioning Parachute Stowage Platform

Build and position parachute stowage platform as shown in Figure 11-40. After building the parachute stowage platform, place it on the equipment hose box.



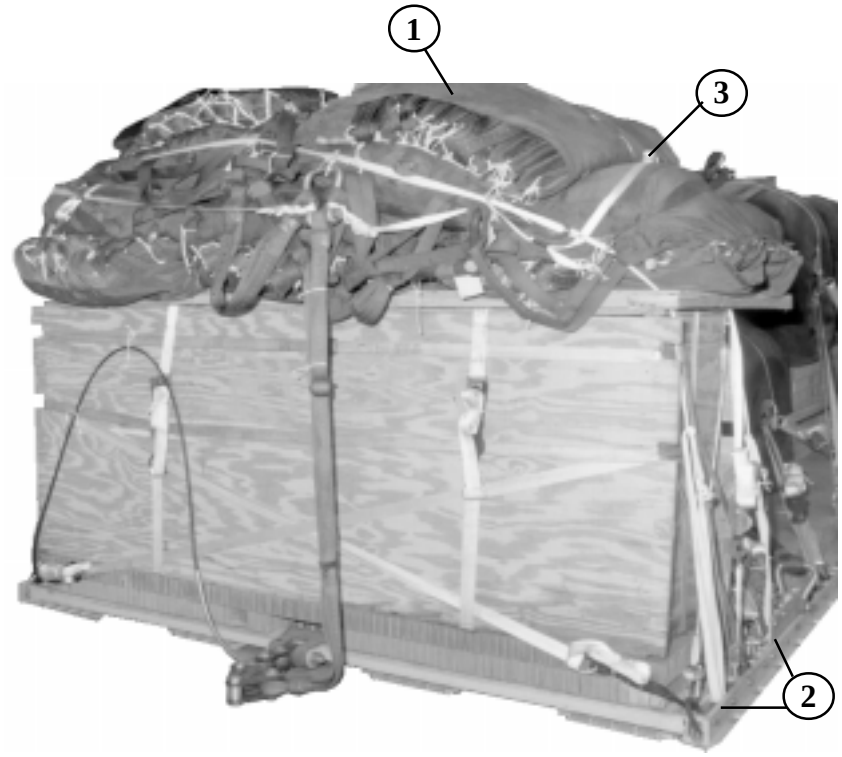


Lashing Number	Clevis Number	Instructions
51	26	Route a 15-foot lashing from clevis 26 through both rear right holes in the parachute stowage platform.
52	26A	Route a 15-foot lashing from clevis 26A through both rear left holes in the parachute stowage platform.

Figure 11-40. Lashings 51 and 52 installed

11-40. Preparing and Stowing Cargo Parachutes

Prepare and stow cargo parachutes as shown in Figure 11-41.



Step:

1. Prepare and stow five G-11 cargo parachutes in accordance with FM 10-500-2/ TO13C7-1-5.

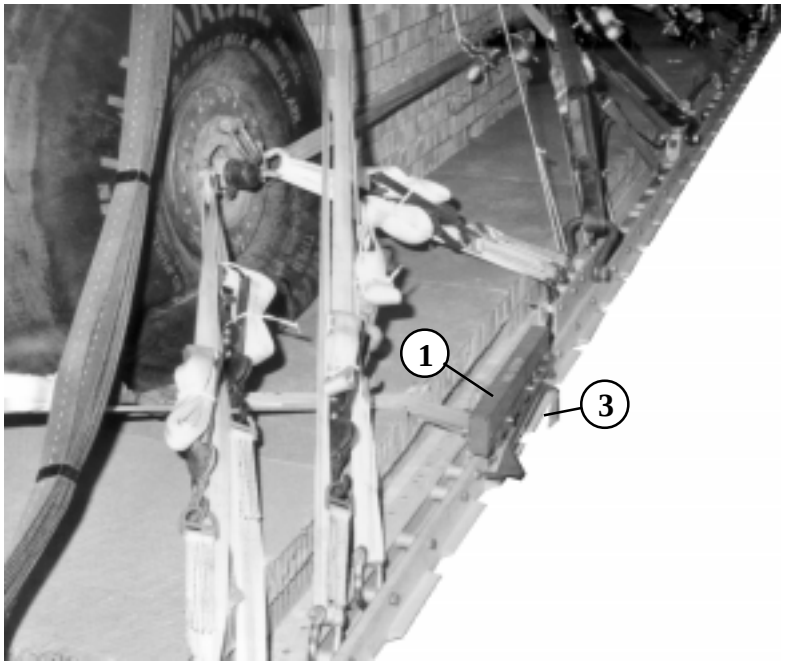
2. Restrain the parachutes using bushings 55 and 55A on the platform and bushings 3 and 3A on the rear suspension link.

3. Install the multicut parachute strap in accordance with FM 10-500-2/TO13C7-1-5.

Figure 11-41. Cargo parachutes prepared and stowed

11-41. Installing the Extraction System

Install the extraction system as shown in Figure 11-42.



(1) Install the extraction force transfer coupling in accordance with FM 10 500-2/ TO13C7-1-5.

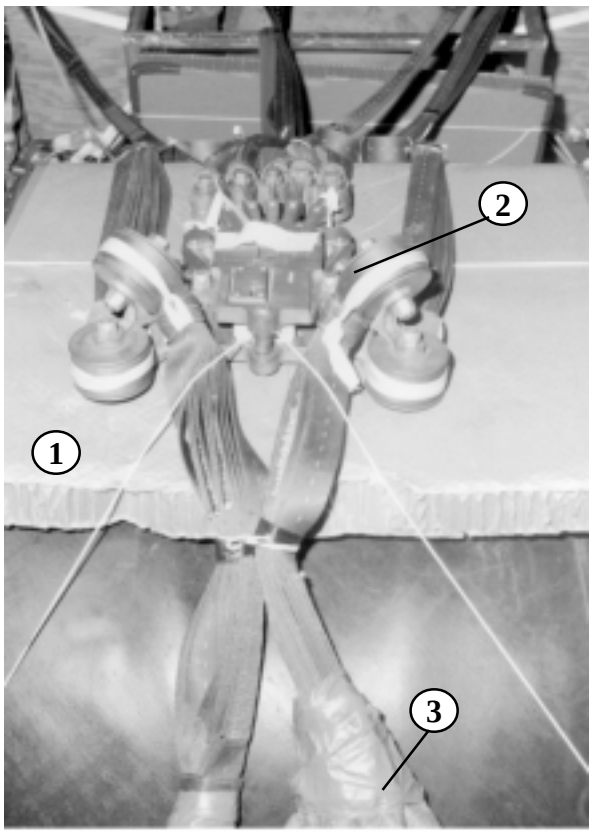
(2) Use a 9-foot (2-loop), type XXVI nylon sling for use as a deployment line (not shown).

(3) Use the rear mounting holes for the EFTC bracket and a 28-foot cable.

Figure 11-42. Extraction system installed

11-42. Installing the Release System

Install the release system as shown in Figure 11-43.



Step:

1. Place and secure a 96-inch by 24-inch piece of honeycomb from the separator to the top of the top rear drum.

2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold and tie any slack in the suspension slings with 1/4-inch cotton webbing.

Figure 11-43. Release system installed

11-43. Installing Provisions for Emergency Restraints

Select and install provisions for the emergency restraints according to the emergency aft restraint requirement table in FM 10-500-2/ TO 13C7-1-5.

11-44. Placing Extraction Parachutes

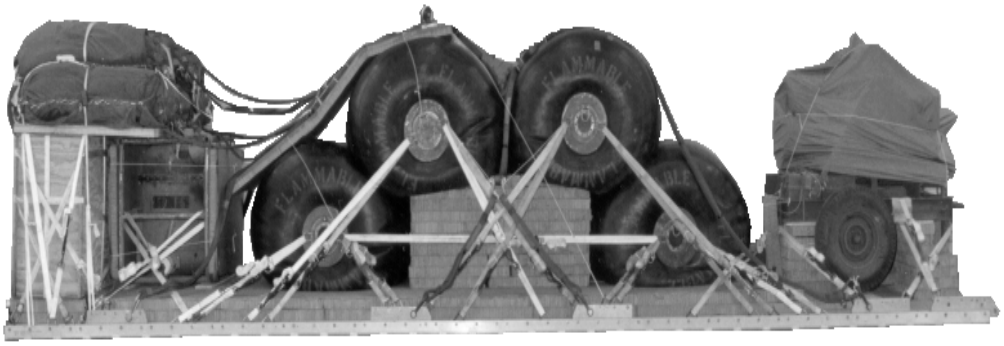
Select the extraction parachutes and extraction line needed using the extraction line requirement table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachutes and extraction line on the load for installation in aircraft.

11-45. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-44. Complete Shipper's Declaration for Dangerous Goods form. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

11-46. Equipment Required

Use the equipment listed in Table 11-2 to rig this load.



RIGGED LOAD DATA

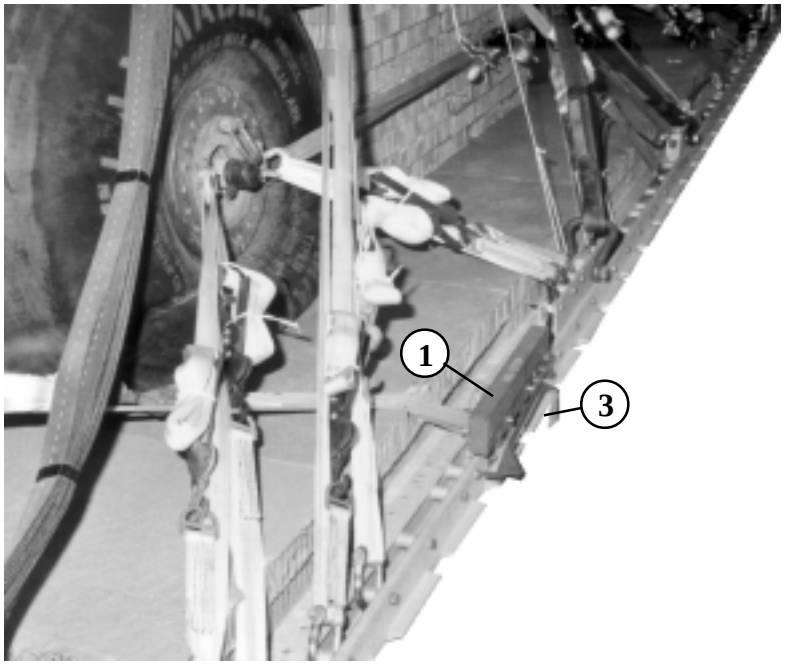
WEIGHT	**24,408 POUNDS**
MAXIMUM	**25,658 POUNDS**
HEIGHT	**89 INCHES**
WIDTH	**108 INCHES**
LENGTH	**376 INCHES**
OVERHANG	**FRONT 18 INCHES** **REAR 22 INCHES**

CENTER OF BALANCE: FROM THE FRONT EDGE OF THE PLATFORM: 172 INCHES

Figure 11-44. Four 500-gallon drums with a pump and separator rigged

11-41. Installing the Extraction System

Install the extraction system as shown in Figure 11-42.



(1) Install the extraction force transfer coupling in accordance with FM 10 500-2/ TO13C7-1-5.

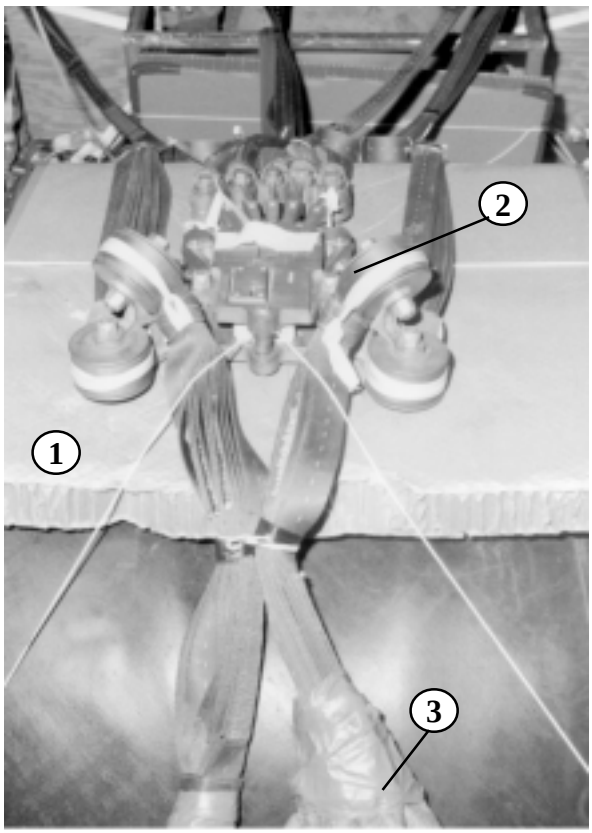
(2) Use a 9-foot (2-loop), type XXVI nylon sling for use as a deployment line (not shown).

(3) Use the rear mounting holes for the EFTC bracket and a 28-foot cable.

Figure 11-42. Extraction system installed

11-42. Installing the Release System

Install the release system as shown in Figure 11-43.



Step:

1. Place and secure a 96-inch by 24-inch piece of honeycomb from the separator to the top of the top rear drum.

2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold and tie any slack in the suspension slings with 1/4-inch cotton webbing.

Figure 11-43. Release system installed

11-43. Installing Provisions for Emergency Restraints

Select and install provisions for the emergency restraints according to the emergency aft restraint requirement table in FM 10-500-2/ TO 13C7-1-5.

11-44. Placing Extraction Parachutes

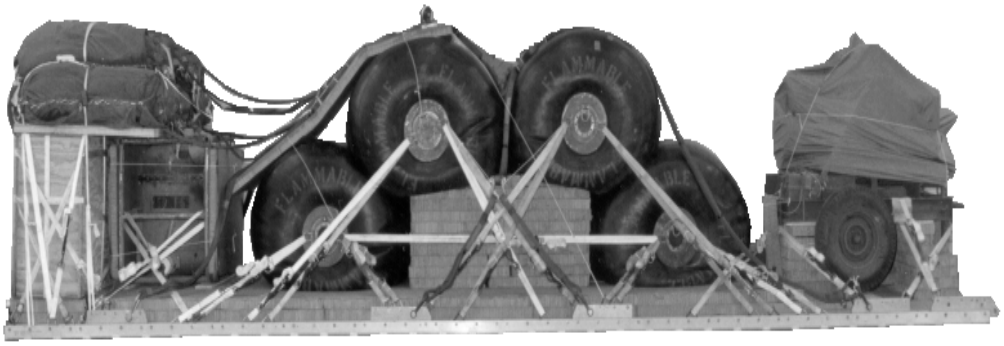
Select the extraction parachutes and extraction line needed using the extraction line requirement table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachutes and extraction line on the load for installation in aircraft.

11-45. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-44. Complete Shipper's Declaration for Dangerous Goods form. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

11-46. Equipment Required

Use the equipment listed in Table 11-2 to rig this load.



RIGGED LOAD DATA

WEIGHT	**24,408 POUNDS**
MAXIMUM	**25,658 POUNDS**
HEIGHT	**89 INCHES**
WIDTH	**108 INCHES**
LENGTH	**376 INCHES**
OVERHANG	**FRONT 18 INCHES** **REAR 22 INCHES**

CENTER OF BALANCE: FROM THE FRONT EDGE OF THE PLATFORM: 172 INCHES

Figure 11-44. Four 500-gallon drums with a pump and separator rigged

SECTION III

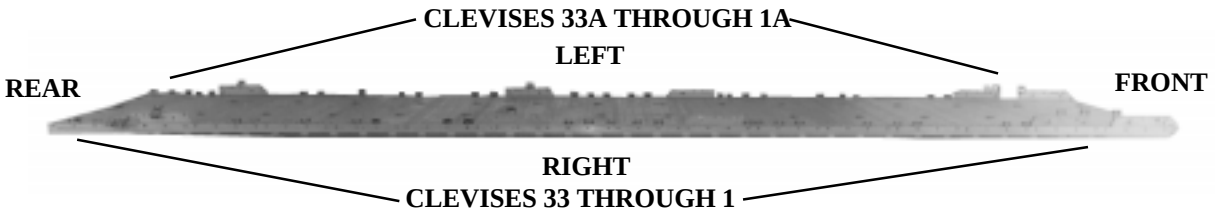
RIGGING FIVE 500-GALLON DRUMS

11-47. Description of Load

The five collapsible fuel drums are rigged on a 32-foot, type V platform with six G-11 cargo parachutes. Each drum is filled with 432 gallons of liquid. Each drum weighs 3,832 pounds and is 62 inches long and 53 inches in diameter. The five drums also have a 350-GPM pump with a separator and hose box as an accompanying load. The total rigged load has a maximum weight of 30,355 pounds with a width of 108 inches and length of 398 inches. It has an overhang of 18 inches in the front and 22 inches in the rear. If the drums are filled with fuel, the weight must be computed using the conversion table shown in Figure 11-1.

11-48. Preparing the Platform

Prepare a 32-foot, type V platform using two tandem multipurpose links, eight suspension links and 72 tiedown clevises as shown in Figure 11-45.



Steps:

1. Install a tandem multi-purpose link to each platform side rail using holes 1, 2, and 3.

2. Install a suspension link to each platform side rail using holes 6, 7, and 8.

3. Install a suspension link to each platform side rail using holes 26, 27, and 28.

4. Install a suspension link to each platform side rail using holes 37, 38, and 39.

5. Install a suspension link to each platform side rail using holes 57, 58, and 59.

6. Install a clevis on bushing 4 of each of the front tandem links.

7. Install a clevis on bushings 1 and 3 of the first suspension links.

8. Install a clevis on bushing 2 of each of the third suspension links.

9. Install doubled clevises on bushing 2 of each of the fourth suspension links.

10. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 9, 10, 15, 16, 18, 22, 24, 25, 30, 31, 33, 34, 35, 41, 42, 46, 47, 50, 53, 54, 60 (tripled), 61 (tripled), 62, 63, and 64 (doubled).

11. Starting at the front of the platform, number the clevises 1 through 33 on the right side and 1A through 33A on the left side.

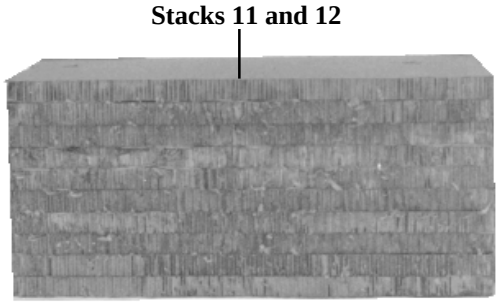
Note: A double clevis has one clevis attached to the bushing and another clevis attached to the first clevis. A triple clevis has one clevis attached to the bushing and two clevises attached to the first clevis.

Note: Use the clevis on bushing 64 as clevises 33 and 33A and the doubled clevis as 32 and 32A.

Figure 11-45. Platform prepared

11-49. Preparing Honeycomb Stacks

Build honeycomb stacks as shown in Figures 11-3 and 11-4 and Figures 11-46 and 11-47.

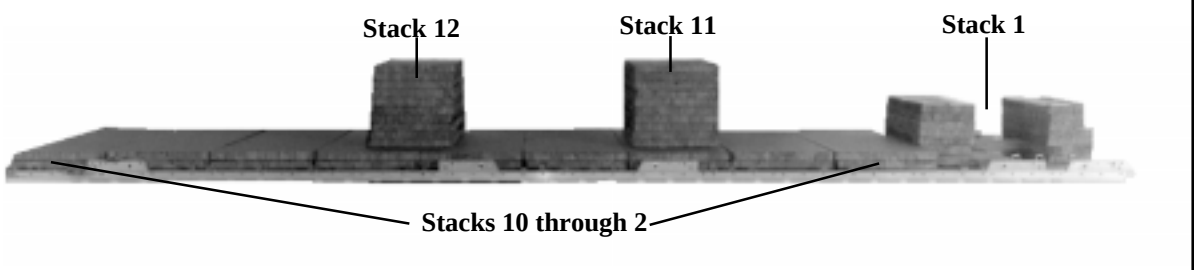


Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	Prepare honeycomb stack 1 as shown in Figure 11-3.				
2-10	Prepare honeycomb stacks 2-10 as shown in Figure 11-4.				
11	10	60	30	Honeycomb	Glue together.
12	10	60	30	Honeycomb	Glue together.

Figure 11-46. Honeycomb stacks 1 through 12 prepared

11-50. Positioning Honeycomb Stacks

Position honeycomb stacks as shown in Figure 11-47.



Steps:

1. Position stack 1 on the front edge of the platform and centered.

2. Position stacks 2 through 10 flush on the rear edge of stack 1 and flush with each other.

3. Position stack 11 on top of stack 4 ensuring the 30-inch length is aligned with the side rails (do not glue).

4. Position stack 12 on top of stacks 6 and 7 ensuring the 30-inch length is aligned with the side rails (do not glue).

NOTE: Stacks 11 and 12 may need to be adjusted to allow for placement of the drums.

Figure 11-47. Honeycomb stacks positioned

11-51. Building the Equipment Hose Box

Build the equipment hose box as shown in Figure 11-7.

11-52. Positioning Equipment Hose Box

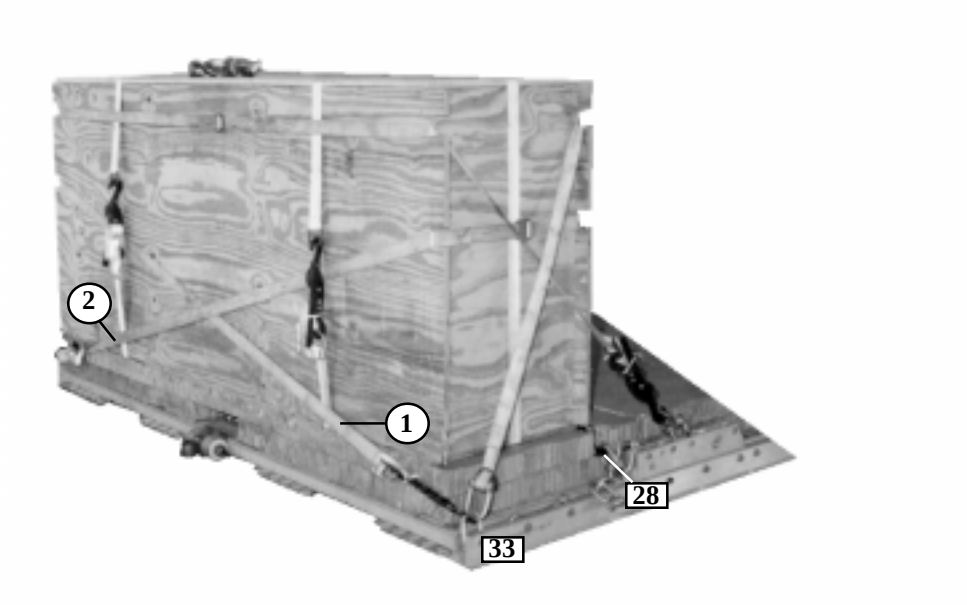
Position the equipment hose box as shown in Figure 11-8.

11-53. Storing Equipment in Equipment Hose Box

Store equipment in the equipment hose box as shown in Figure 11-9.

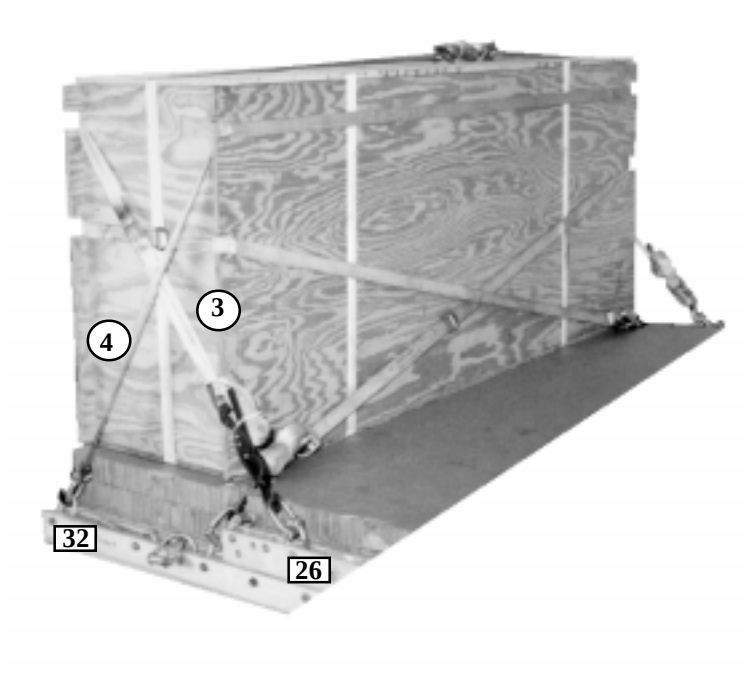
11-54. Lashing Equipment Hose Box to Platform

Lash the equipment hose box to the platform as shown in Figures 11-48 and 11-49.



Lashing Number	Clevis Number	Instructions
1	33	Route a 30-foot lashing from clevis 33 to the rear bottom left cutout, to the front bottom left cutout, to clevis 28. Ensure lashing is routed under the load to binders on the rear of the box.
2	33A	Route a 30-foot lashing from clevis 33A to the rear bottom right cutout, to the front bottom right cutout, to clevis 28A. Ensure lashing is routed under the load binders on the rear of the box.

Figure 11-48. Lashings 1 and 2 installed



Lashing Number	Clevis Number	Instructions
3	26	Route a 30-foot lashing from clevis 26 to the rear top cutouts, to clevis 26A.
4	32	Route a 15 lashing through its own D-ring on clevis 32 to the front top cutouts to clevis 32A.

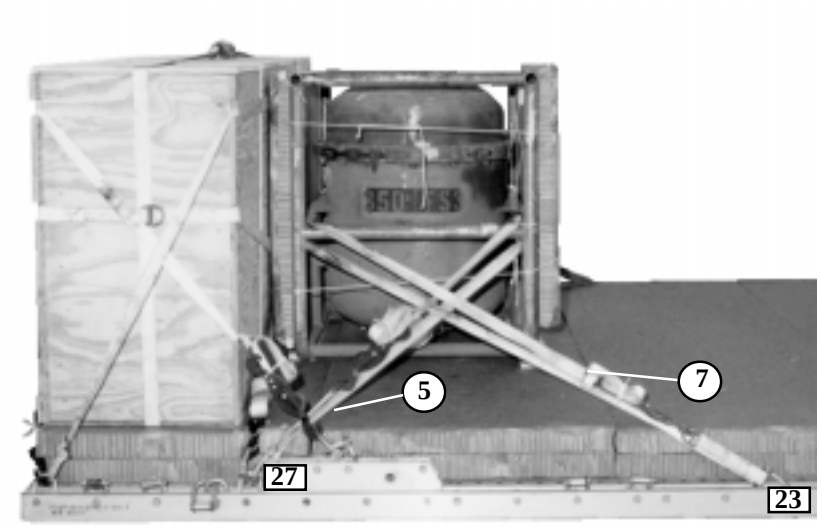
Figure 11-49. Lashings 3 and 4 installed

11-55. Preparing and Positioning Fuel Separator

Prepare and position the fuel separator as shown in Figure 11-12.

11-56. Lashing Fuel Separator to Platform

Lash fuel separator to the platform as shown in Figure 11-50.

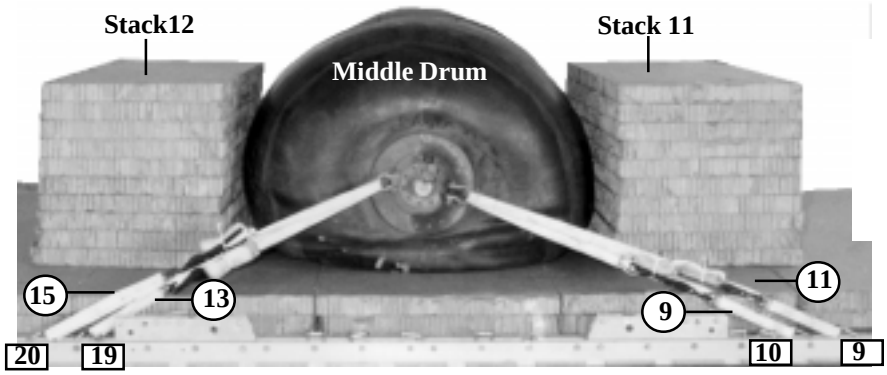


Lashing Number	Clevis Number	Instructions
5	27	Route a 15-foot lashing from clevis 27 around the front right middle cross member.
6	27A	Route a 15-foot lashing from clevis 27A around the front left middle cross member.
7	23	Route a 15-foot lashing from clevis 23 around the rear right middle cross member.
8	23A	Route a 15-foot lashing from clevis 23A around the rear left middle cross member.

Figure 11-50. Lashings 5 through 8 installed

11-57. Positioning and Lashing the Drums

Position and lash drums in Figures 11-51 through 11-57.



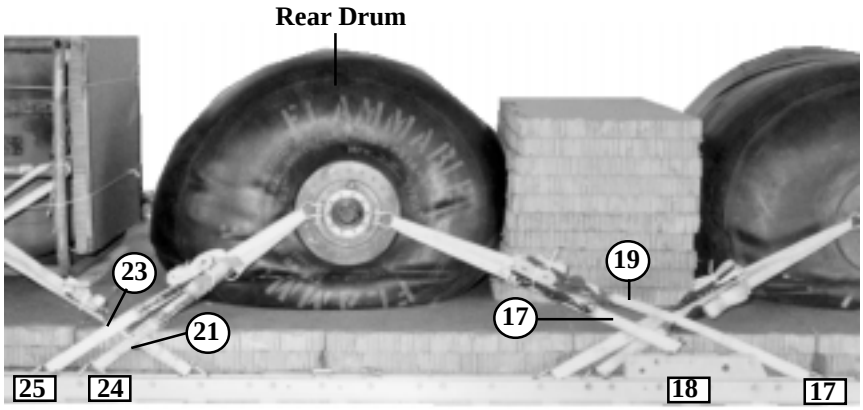
Steps:

1. Place a platform clevis on one end of two 9-foot (2-loop), type XXVI slings. Attach sling to each side of the drum for lifting purposes only and remove after positioning (not shown).

2. Position the middle drum centered from front to rear, and left to right on the platform. Stacks 11 and 12 may need to be moved during placement.

Lashing Number	Clevis Number	Instructions
9	10	Route a 15-foot lashing from clevis 10 to the front shackle of the drum.
10	10A	Route a 15-foot lashing from clevis 10A to the front shackle of the drum.
11	9	Route a 15-foot lashing from clevis 9 to the front shackle of the drum.
12	9A	Route a 15-foot lashing from clevis 9A to the front shackle of the drum.
13	19	Route a 15-foot lashing from clevis 19 to the rear shackle of the drum.
14	19A	Route a 15-foot lashing from clevis 19A to the rear shackle of the drum.
15	20	Route a 15-foot lashing from clevis 20 to the rear shackle of the drum.
16	20A	Route a 15-foot lashing from clevis 20A to the rear shackle of the drum.

Figure 11-51. Lashings 9 through 16 installed



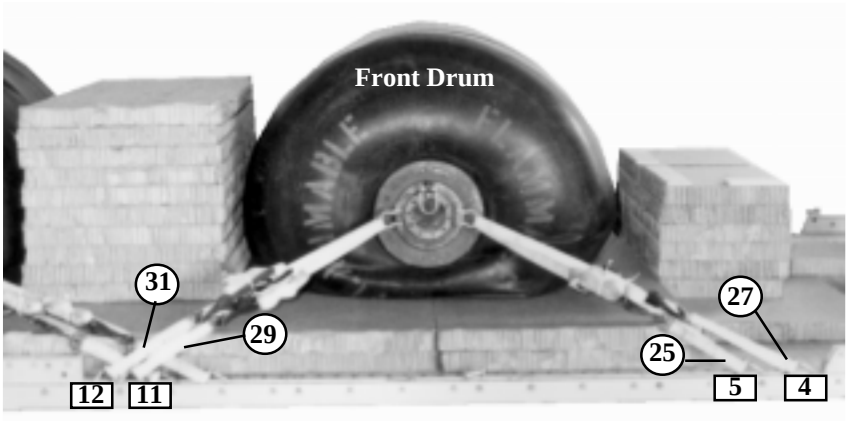
Steps:

1. Place a platform clevis on one end of two 9-foot (2-loop), type XXVI slings. Attach sling to each side of the drum for lifting purposes only and remove after positioning (not shown).

2. Position the rear drum behind stack 12. Stack 12 may need to be moved during placement.

Lashing Number	Clevis Number	Instructions
17	18	Route a 15-foot lashing from clevis 18 to the front shackle of the drum.
18	18A	Route a 15-foot lashing from clevis 18A to the front shackle of the drum.
19	17	Route a 15-foot lashing from clevis 17 to the front shackle of the drum.
20	17A	Route a 15-foot lashing from clevis 17A to the front shackle of the drum.
21	24	Route a 15-foot lashing from clevis 24 to the rear shackle on the drum.
22	24A	Route a 15-foot lashing from clevis 24A to the rear shackle on the drum.
23	25	Route a 15-foot lashing from clevis 25 to the rear shackle of the drum.
24	25A	Route a 15-foot lashing from clevis 25A to the rear shackle of the drum.

Figure 11-52. Lashings 17 through 24



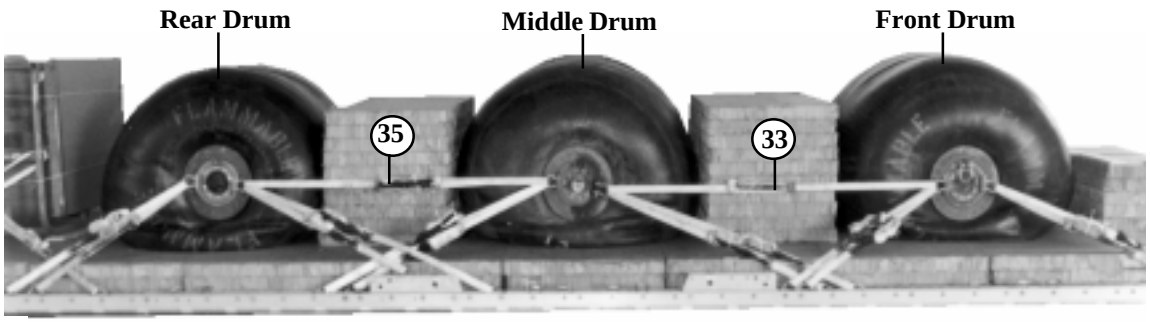
Steps:

1. Place a platform clevis on one end of two 9-foot (2-loop), type XXVI slings. Attach sling to each side of the drum for lifting purposes only and remove after positioning (not shown).

2. Position the front drum to the front of stack 11. Stack 11 may need to be moved during placement.

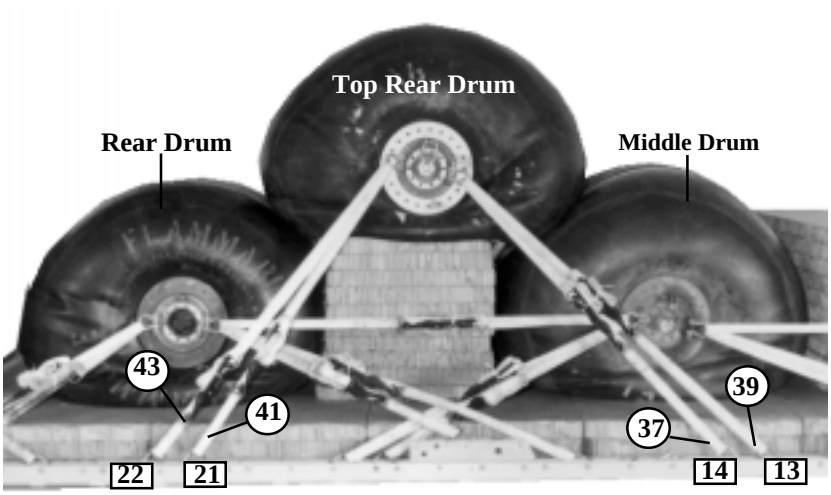
Lashing Number	Clevis Number	Instructions
25	5	Route a 15-foot lashing from clevis 5 to the front shackle of the drum.
26	5A	Route a 15- foot lashing from clevis 5A to the front shackle of the drum.
27	4	Route a 15-foot lashing from clevis 4 to the front shackle of the drum.
28	4A	Route a 15-foot lashing from clevis 4A to the front shackle of the drum.
29	11	Route a 15-foot lashing from clevis 11 to the rear shackle of the drum.
30	11A	Route a 15-foot lashing from clevis 11A to the rear shackle of the drum.
31	12	Route a 15-foot lashing from clevis 12 to the rear shackle of the drum.
32	12A	Route a 15-foot lashing from clevis 12A to the rear shackle of the drum.

Figure 11-53. Lashings 25 through 32 installed



Lashing Number	Clevis Number	Instructions
33		Route a 15-foot lashing from the front shackle of the middle drum to the rear shackle of the front drum on the right side.
34		Route a 15-foot lashing from the front shackle of the middle drum to the rear shackle of the front drum on the left side(not shown).
35		Route a 15-foot lashing from the rear shackle of the middle drum to the front shackle of the rear drum on the right side.
36		Route a 15-foot lashing from the rear shackle of the middle drum to the front shackle of the rear drum on the left side (not shown).

Figure 11-54. Lashings 33 through 36 installed



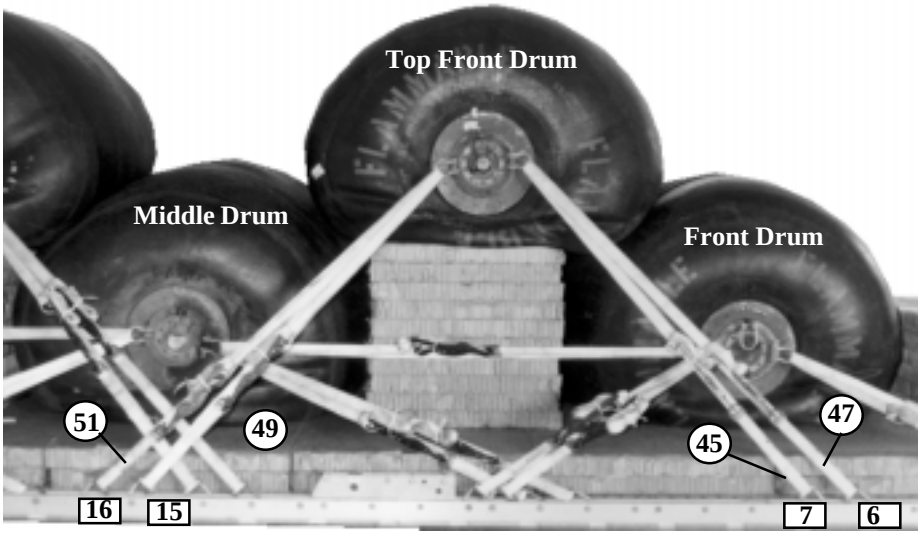
Steps:

1. Place a platform clevis on one end of two 9-foot (2-loop), type XXVI slings. Attach sling to each side of the drum for lifting purposes only and remove after positioning (not shown).

2. Position the top rear drum on top of stack 12.

Lashing Number	Clevis Number	Instructions
37	14	Route a 15-foot lashing from clevis 14 to the front shackle of the drum.
38	14A	Route a 15-foot lashing from clevis 14A to the front shackle of the drum.
39	13	Route a 15-foot lashing from clevis 13 to the front shackle of the drum
40	13A	Route a 15-foot lashing from clevis 13A to the front shackle of the drum.
41	21	Route a 15-foot lashing from clevis 21 to the rear shackle of the drum.
42	21A	Route a 15-foot lashing from clevis 21A to the rear shackle of the drum.
43	22	Route a 15-foot lashing from clevis 22 to the rear shackle of the drum.
44	22A	Route a 15-foot lashing from clevis 22A to the rear shackle of the drum.

Figure 11-55. Lashings 37 through 44 installed



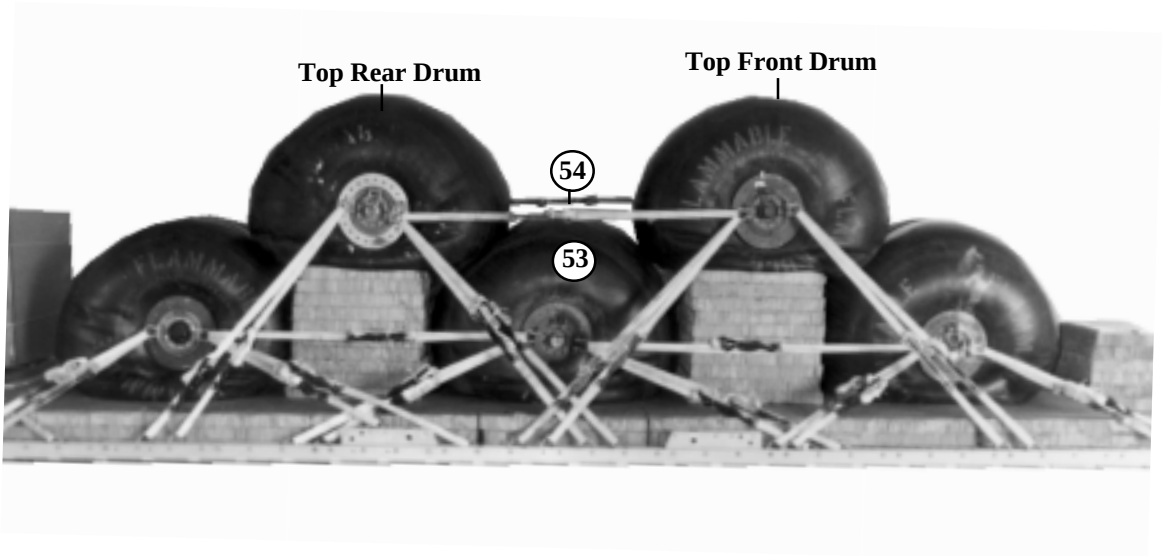
Steps:

1. Place a platform clevis on one end of two 9-foot (2-loop), type XXVI slings. Attach sling to each side of the drum for lifting purposes only and remove after positioning (not shown).

2. Position the top front drum on top of stack 11.

Lashing Number	Clevis Number	Instructions
45	7	Route a 15-foot lashing from clevis 7 to the front shackle of the drum.
46	7A	Route a 15-foot lashing from clevis 7A to the front shackle of the drum.
47	6	Route a 15-foot lashing from clevis 6 to the front shackle of the drum.
48	6A	Route a 15-foot lashing from clevis 6A to the front shackle of the drum.
49	15	Route a 15-foot lashing from clevis 15 to the rear shackle of the drum.
50	15A	Route a 15-foot lashing from clevis 15A to the rear shackle of the drum.
51	16	Route a 15-foot lashing from clevis 16 to the rear shackle of the drum.
52	16A	Route a 15-foot lashing from clevis 16A to the rear shackle of the drum.

Figure 11-56. Lashings 45 through 52 installed



Lashing Number	Clevis Number	Instructions
53		Route a 15-foot lashing from the front shackle of the top rear drum to the rear shackle of the top front drum on the right side.
54		Route a 15-foot lashing from the rear shackle of the top rear drum to the front shackle of the top front drum on the left side.

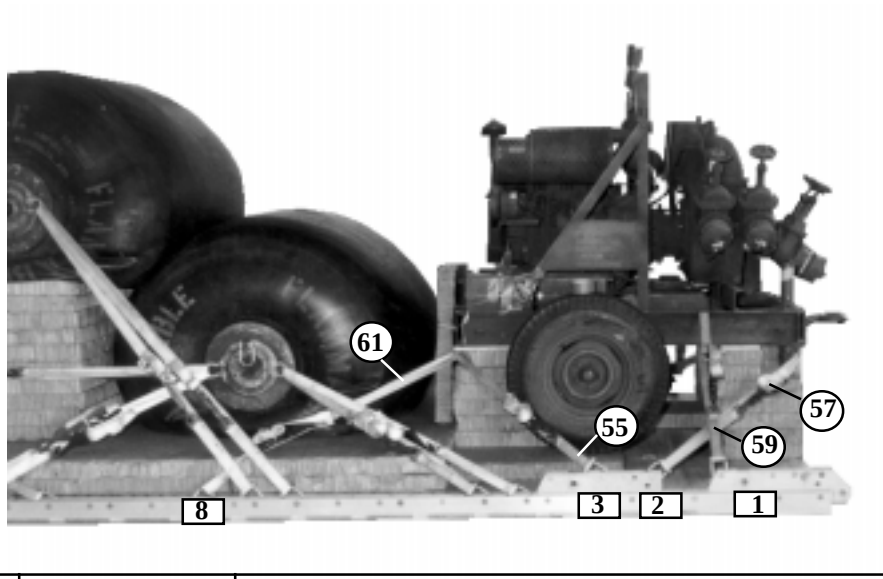
Figure 11-57. Lashings 53 and 54 installed

11-58. Preparing and Positioning Pump

Prepare and position the pump as shown in Figure 11-16.

11-59. Lashing Pump to Platform

Lash the pump to platform as shown in Figure 11-58.



Lashing Number	Clevis Number	Instructions
55	3	Route a 15-foot lashing from clevis 3 to the right rear tiedown point.
56	3A	Route a 15-foot lashing from clevis 3A to the left rear tiedown point.
57	2	Route a 15-foot lashing from clevis 2 to the right front tiedown point.
58	2A	Route a 15-foot lashing from clevis 2A to the left front tiedown point.
59	1	Route a 15-foot lashing from clevis 1 to the right side frame.
60	1A	Route a 15-foot lashing from clevis 1A to the left side frame.
61	8	Route a 15-foot lashing from clevis 8 to the left rear tiedown point.
62	8A	Route a 15-foot lashing from clevis 8A to the left rear tiedown point.

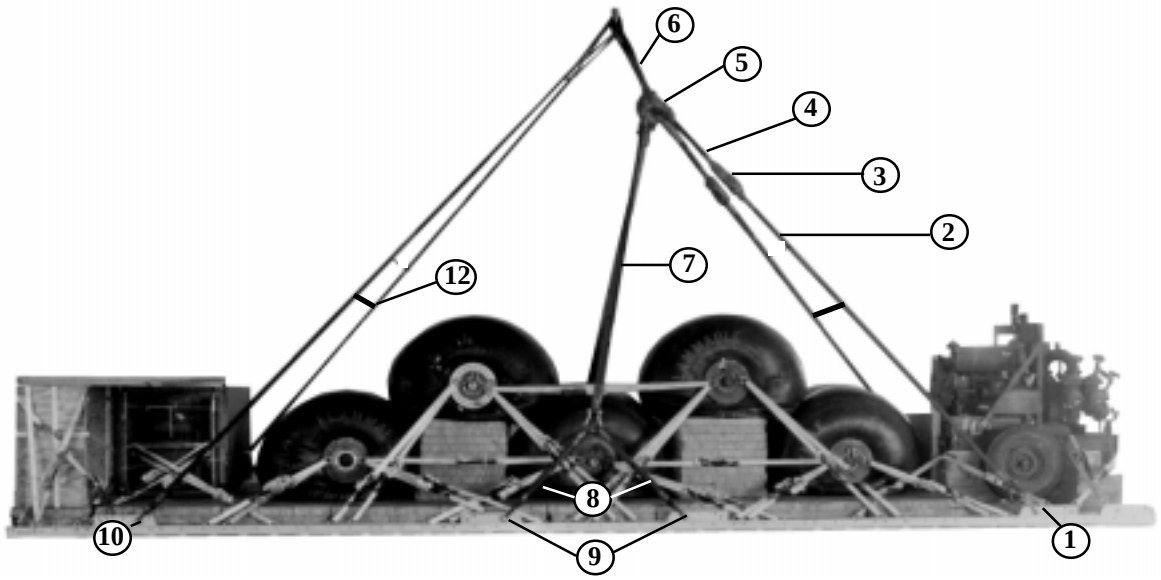
Figure 11-58. Lashings 55 through 62 installed

11-60. Installing Suspension Slings and Safety Tie

Install suspension slings and safety tie as shown in Figure 11-59.

11-61. Placing Canvas Cover Over Pump

Place a canvas cover over the pump as shown in Figure 11-18.

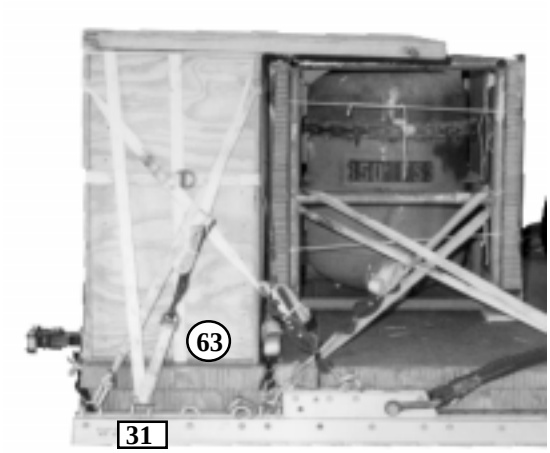


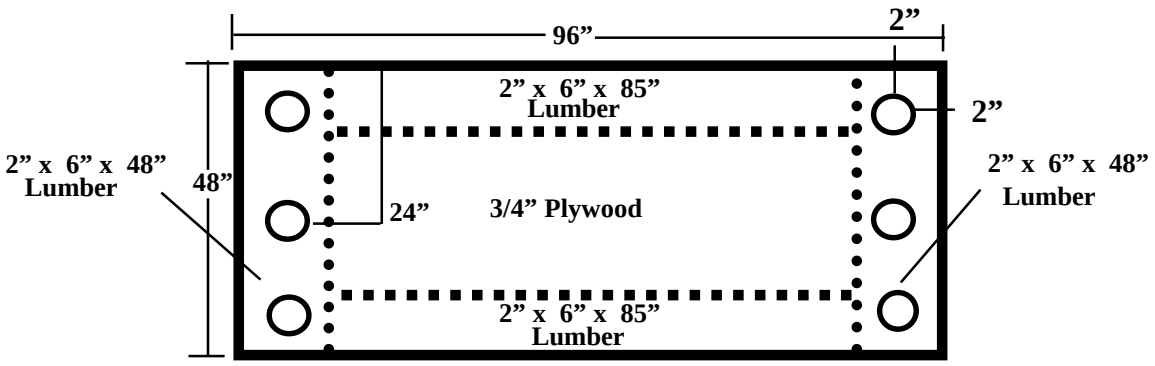
1. Attach a large clevis to the first right suspension link.
2. Place a large clevis in one end of a 12-foot (4-loop), type XXVI nylon suspension sling. Attach the clevis to the clevis in step one and safety them together with type III nylon cord using a hourglass tie.
3. Attach the running end of the 12-foot sling to a 5 1/2-inch 2-point link.
4. Attach a 3-foot (4-loop), type XXVI nylon suspension sling to the 2-point link.
5. Attach a 3-point link to the 3-foot sling.
6. Attach a 3-foot (4-loop), type XXVI nylon suspension sling to the 3-point link.
7. Fold in half a 20-foot (2-loop), type XXVI nylon suspension sling on the final corner of the 3-point link.
8. Attach two 3-foot (4-loop), type XXVI nylon suspension slings to a large clevis and attach this clevis to the running ends of the folded 20-foot sling.
9. Attach one clevis to each running end of the two 3-foot slings and attach one clevis to each center suspension link.
10. Place a large clevis in one end of a 20-foot (4-loop), type XXVI suspension sling and attach the clevis to the right rear suspension link.
11. Repeat steps 1 through 10 for the left side of the platform.
12. Raise the slings and install the safety tie to the front and rear set of suspension slings using doubled 1/2-inch tubular nylon.

Figure 11-59. Suspension slings and safety tie installed

11-62. Building and Positioning Parachute Stowage Platform

Build and position parachute stowage platform as shown in Figure 11-60. After building the parachute stowage platform, place it on the equipment hose box.



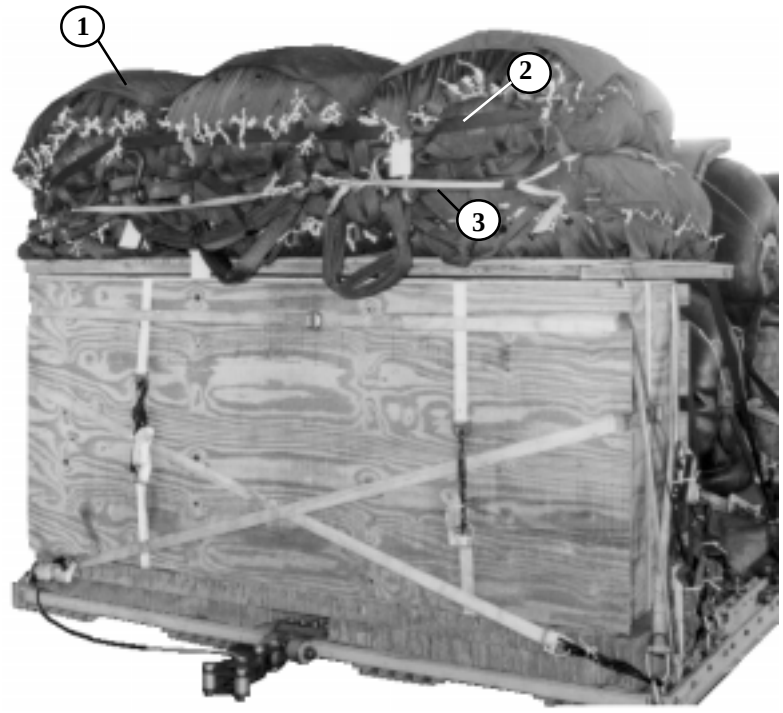


Lashing Number	Clevis Number	Instructions
63	31	Route a 15-foot lashing from clevis 31 through the rear and center right holes in the stowage platform.
64	31A	Route a 15-foot lashing from clevis 31A through the rear and center left holes in the stowage platform.

Figure 11-60. Lashings 63 and 64 installed

11-63. Preparing and Stowing Cargo Parachutes

Prepare and stow cargo parachutes as shown in Figure 11-61.



Steps:

1. Prepare and stow six G-11 cargo parachutes in accordance with FM 10-500-2/ TO13C7-1-5.

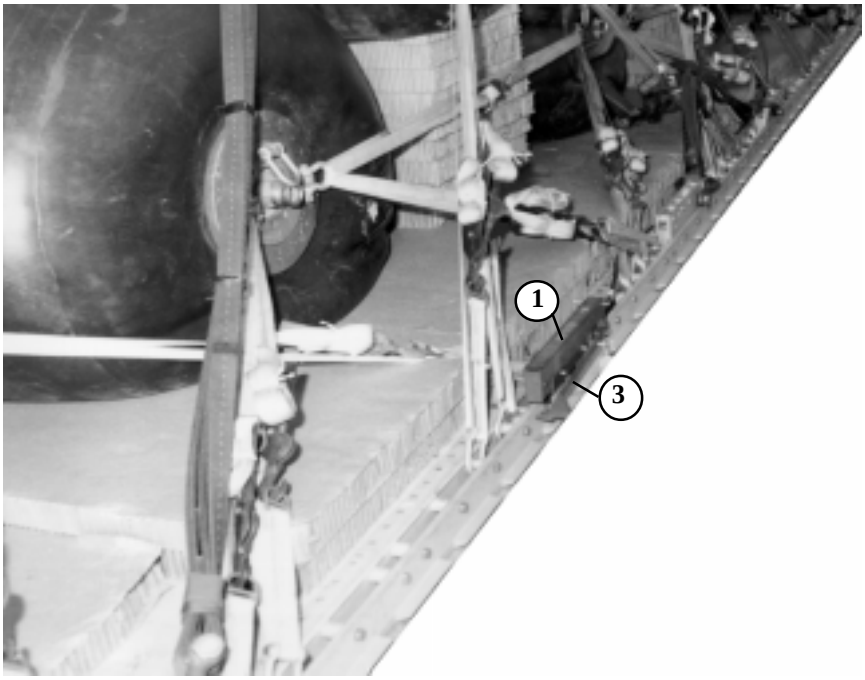
2. Restrain the parachutes using type X nylon webbing and clevises 25, 25A, 29, 29A, 30, and 30A.

3. Install the parachute release straps in accordance with FM 10-500-2/TO13C7-1-5.

Figure 11-61. Cargo parachutes prepared and stowed

11-64. Installing the Extraction System

Install the extraction system as shown in Figure 11-62.



(1) Install the extraction force transfer coupling system in accordance with FM 10-500-2/ TO13C7-1-5.

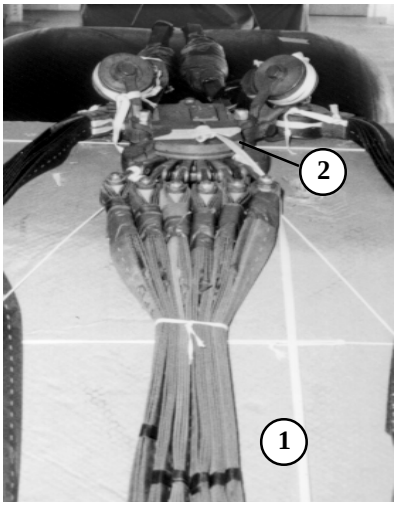
(2) Use a 9-foot (2-loop), type XXVI nylon sling as a deployment line (not shown).

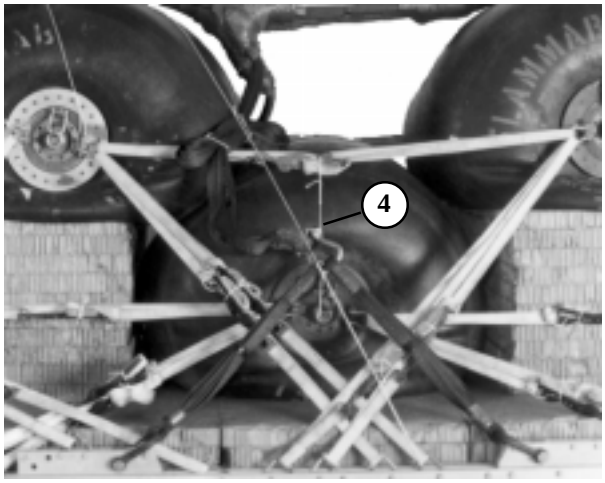
(3) Use the rear mounting holes for the EFTC bracket and 28-foot cable.

Figure 11-62. Extraction system installed

11-65. Installing the Release System

Install the release system as shown in Figure 11-63.





Step:

1. Place and secure a 96-inch by 36-inch piece of honeycomb from the separator to the top of the rear drum, securing it with type III nylon cord.

2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold and tie any slack in the suspension slings with 1/4-inch cotton webbing (not shown).

4. Secure the large clevis attached to the folded 20-foot suspension sling to the lashing installed between the top two drums with a piece of type III nylon cord.

Figure 11-63. Release system installed

11-66. Installing Provisions for Emergency Restraints

Select and install provisions for the emergency restraints according to the emergency aft restraint requirement table in FM 10-500-2/ TO13C7-1-5.

11-67. Placing Extraction Parachutes

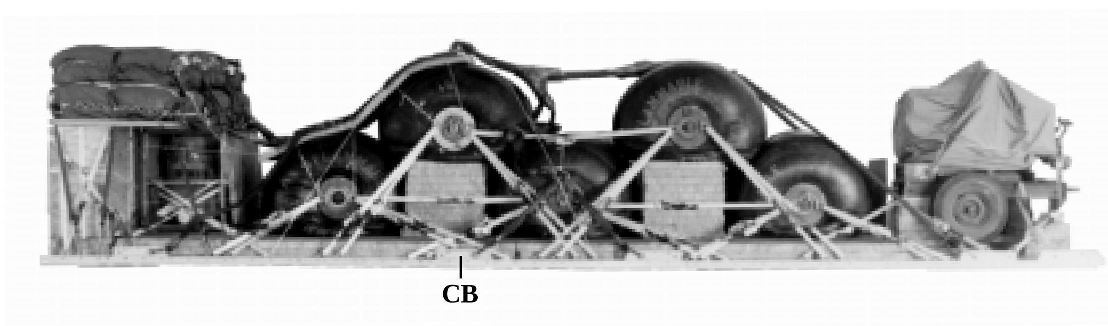
Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO13C7-1-5. Place the extraction line on the load for installation in aircraft.

11-68. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-64. Complete Shipper's Declaration for Dangerous Goods form. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

11-69. Equipment Required

Use the equipment listed in Table 11-3 to rig this load.



RIGGED LOAD DATA

WEIGHT — 28,855 POUNDS

MAXIMUM WEIGHT — — — — — — — — — — — — — — — 30,355 POUNDS

HEIGHT — 75 INCHES

WIDTH — 108 INCHES

LENGTH — 398 INCHES

OVERHANG — — — — — — — — — — — — — — — — FRONT 18 INCHES
REAR 22 INCHES

CENTER OF BALANCE: FROM THE FRONT EDGE OF THE PLATFORM:
198 INCHES

Figure 11-64. Five 500-gallon drums with a pump and separator rigged

Table 11-3. Equipment required for rigging five 500-gallon drums with a pump separator for low velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As Required
4030-00-090-5354	Clevis, suspension, 1-in (large)	11
8305-00-242-3593	Cloth, cotton duck, 60-in	As Required
4020-00-240-2146	Cord, nylon III, 550-lb	As Required
1670-01-326-7309	Coupling, airdrop, extraction force transfer with cable, 28ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	5
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As Required
1670-01-183-2678	Leaf, extraction line, (line bag)	2
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI (for C130)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C141, C5, and C17)	1
1670-01-064-4452	Line, drouge (C17) 60-ft (1-loop), type XXVI	1
	Link assembly:	
1670-00-782-2752	Three-point, 5 1/2-in	2
1670-00-783-5988	Type IV	5
	Two-point	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	1
5310-00-232-5165	Nut, 1-in, hexagonal	1
1670-00-003-3454	Plate, side, 5 1/2-in	1
1670-00-007-3414	Space, large	1

Table 11-3. Equipment required for rigging five 500-gallon drums with a pump separator for low velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	39 sheets
5530-00-220-6274	Lumber, 2 by 4-in	As required
5530-00-618-8073	Plywood, 3/4-in:	4 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	6
	Cargo extraction	
1670-00-040-8135	28ft	2
1670-01-063-3715	Drouge, 15-ft (C17), with tow plate	1
	Platform, airdrop, type V, 32ft	1
1670-01-353-8425	Bracket, assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	72
1670-01-353-8424	Extraction bracket assembly	1
1670-01-247-2389	Suspension link	8
1670-01-162-2381	Tandem link	2
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop	
	Suspension and lifting:	
1670-01-062-6308	16-ft (4-loop),type XXVI nylon webbing	2
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	6
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6314	60-ft (3-loop), type XXVI nylon webbing	5
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	5

Table 11-3. Equipment required for rigging five500-gallon drums with a pump separator for low velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
1670-01-062-6305	Link, assembly, coupling, 3-point	2
1670-00-040-8219	Knife, multi, strap, parachute release	2
7510-00-266-5016	Tape, PSA, cloth back, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	72
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tublar, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

SECTION IV

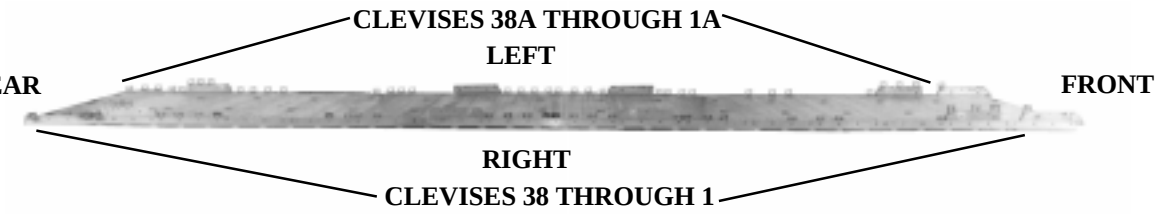
RIGGING SIX 500-GALLON DRUMS

11-70. Description of Load

The six collapsible fuel drums are rigged on a 32-foot, type V platform with seven G-11 cargo parachutes. Each drum is filled with 432 gallons of liquid. Each drum weighs 3,832 pounds and is 62 inches long and 53 inches in diameter. The six drums also have a 350-GPM pump with a separator and hose box as an accompanying load. The total rigged load has a maxium weight of 34,480 pounds with a width of 108 inches and length of 424 inches. It has an overhang of 18 inches in the front and 22 inches in the rear. If the drums are filled with fuel, the weight must be computed using the conversion table in Figure 11-1.

11-71. Preparing the platform

Prepare a 32-foot, type V platform using two tandem multipurpose links, eight suspension links and 80 tiedown clevises as shown in Figure 11-65.



Step:

1. Install a tandem multi-purpose link to each platform side rail using holes 1, 2, and 3.

2. Install a suspension link to each platform side rail using holes 6, 7, and 8.

3. Install a suspension link to each platform side rail using holes 26, 27, and 28.

4. Install a suspension link to each platform side rail using holes 37, 38, and 39.

5. Install a suspension link to each platform side rail using holes 57, 58, and 59.

6. Install a clevis on bushing 4 of each of the front tandem links.

7. Install a clevis on bushings 1, 3 and 4 of each of the front suspension links.

8. Install a clevis on bushings 2, 3 and 4 of each of the fourth suspension links.

9. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 9, 15, 16, 18, 22, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 36, 43, 44, 45, 46, 53, 54, 55, 56, 60 (doubled), 61 (tripled), 62, 63, and 64 (doubled).

10. Starting at the front of the platform, number the clevises 1 through 38 on the right side and 1A through 38A on the left side.

Note: A doubled clevis has one clevis attached to the bushing and another clevis attached to the first clevis. A tripled clevis has one clevis attached to the bushing and two clevises attached to the first clevis.

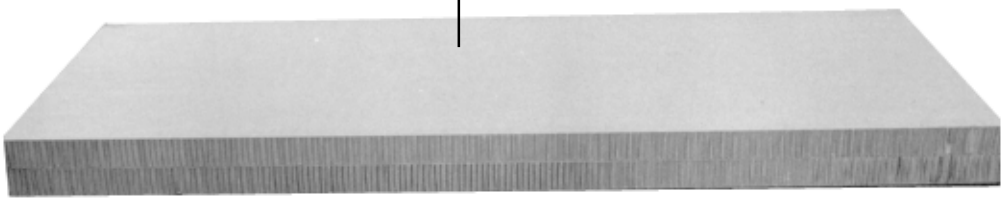
Note: Use the clevis on bushing 64 as clevises 38 and 38A and the doubled clevis as clevises 37 and 37A.

Figure 11-65. Platform prepared

11-72. Preparing Honeycomb Stacks

Build honeycomb stacks as shown in Figures 11-3 , 11-4, 11-46, 11-47 and, 11-66.

Stack 9



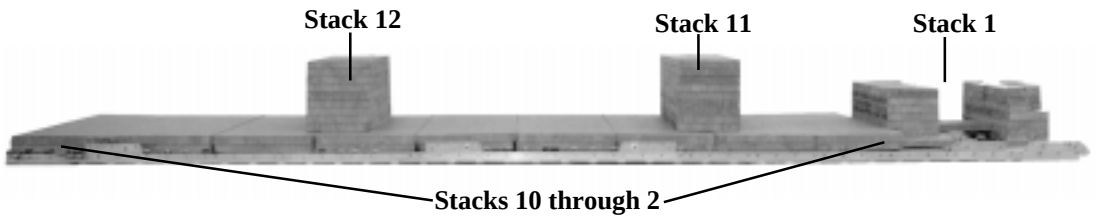
96 x 32”

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	Prepare honeycomb stack 1 as shown in Figure 11-3.				
2-8	Prepare honeycomb stacks 2 through 8 as shown in Figure 11-4.				
9-10	2	96	32	Honeycomb	Glue together.
11-12	Prepare honeycomb stacks 11 and 12 as shown in Figures 11-46 and 11-47.				

Figure 11-66. Honeycomb stacks 1 through 12 prepared

11-73. Positioning Honeycomb Stacks

Position honeycomb stacks as shown in Figure 11-67.



Step:

1. Position stack 1 on the front edge of the platform and centered.

2. Position stacks 2 through 10 flush on the rear edge of stack 1 and flush with each other.

3. Position stack 11 at 122 inches from the front of the platform. Ensure the 30 inch length is aligned with the side rails. Do not glue to stacks 3 or 4.

4. Position stack 12 at 257 inches from the front of the platform. Ensure the 30 inch lenght is aligned with the side rails. Do not glue to stacks 7 or 8.

NOTE: Stacks 11 and 12 may need to be adjusted to allow for placement of the drums.

Figure 11-67. Honeycomb stacks positioned

11-74. Building the Equipment Hose Box

Build the equipment hose box as shown in Figure 11-7.

11-75. Positioning the Equipment Hose Box

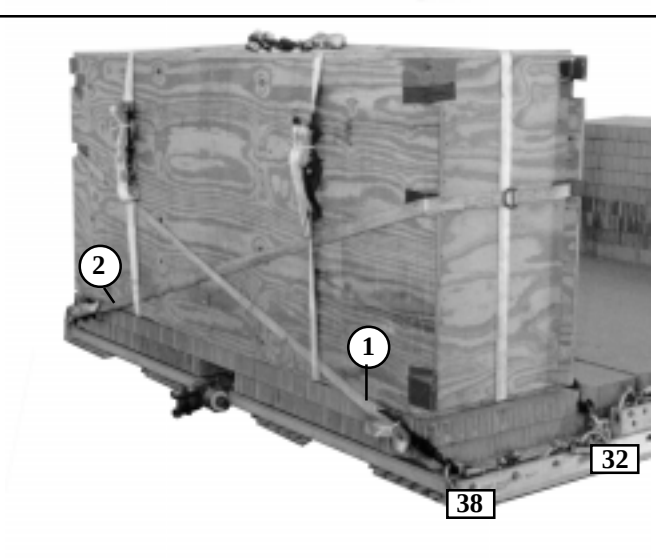
Position the equipment hose box as shown in Figure 11-8.

11-76. Storing Equipment in the Equipment Hose Box

Store equipment in the equipment hose box as shown in Figure 11-9.

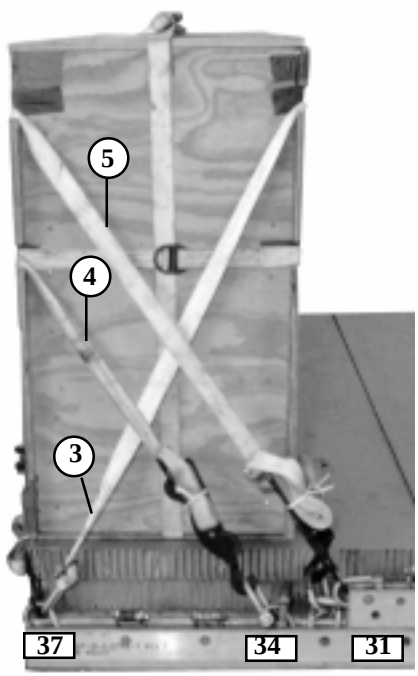
11-77. Lashing Equipment Hose Box to Platform

Lash the equipment hose box to the platform as shown in Figures 11-68 and 11-69.



Lashing Number	Clevis Number	Instructions
1	38	Route a 30-foot lashing from clevis 38 to the rear bottom left cutout to clevis 32. Ensure lashing is routed under the load binders on the rear of the box.
2	38A	Route a 30-foot lashing from clevis 38A to the front bottom right cutout to clevis 32A. Ensure lashing is routed under the load binders on the rear of the box.

Figure11-68. Lashings 1 and 2 installed

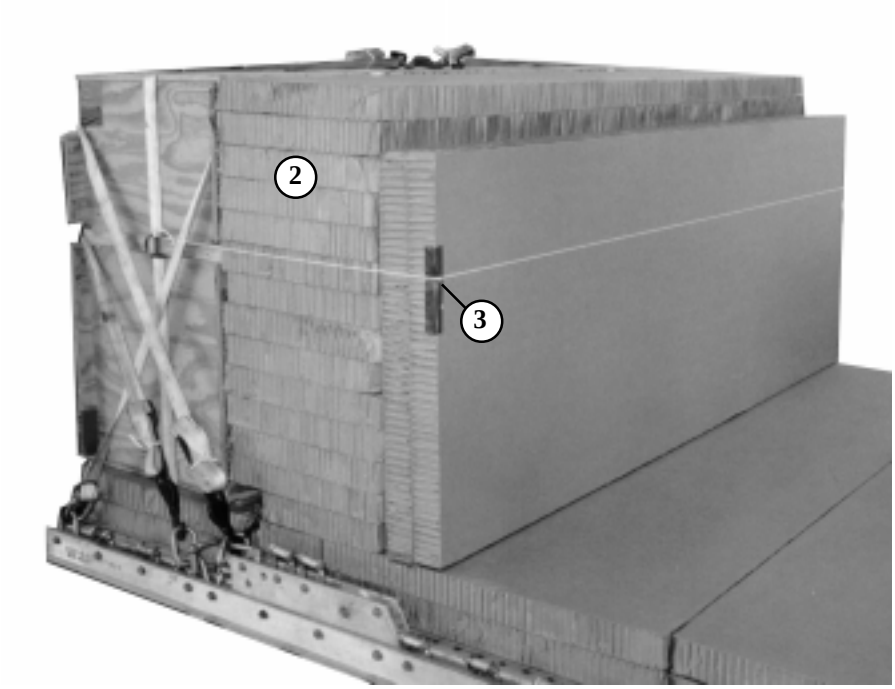


Lashing Number	Clevis Number	Instructions
3	37	Route a 15-foot lashing from clevis 37 to the top front cutouts to clevis 37A.
4	34A	Route a 15-foot lashing through it's own D-ring on clevis 34A to the bottom rear cutouts, to clevis 34.
5	31	Route a 30-foot lashing from clevis 31 to the top rear cutouts to clevis 31A.

Figure 11-69. Lashings 3 through 5 installed

11-78. Positioning and Securing Parachute Stack

Position and secure parachute stack as shown in Figure 11-70.



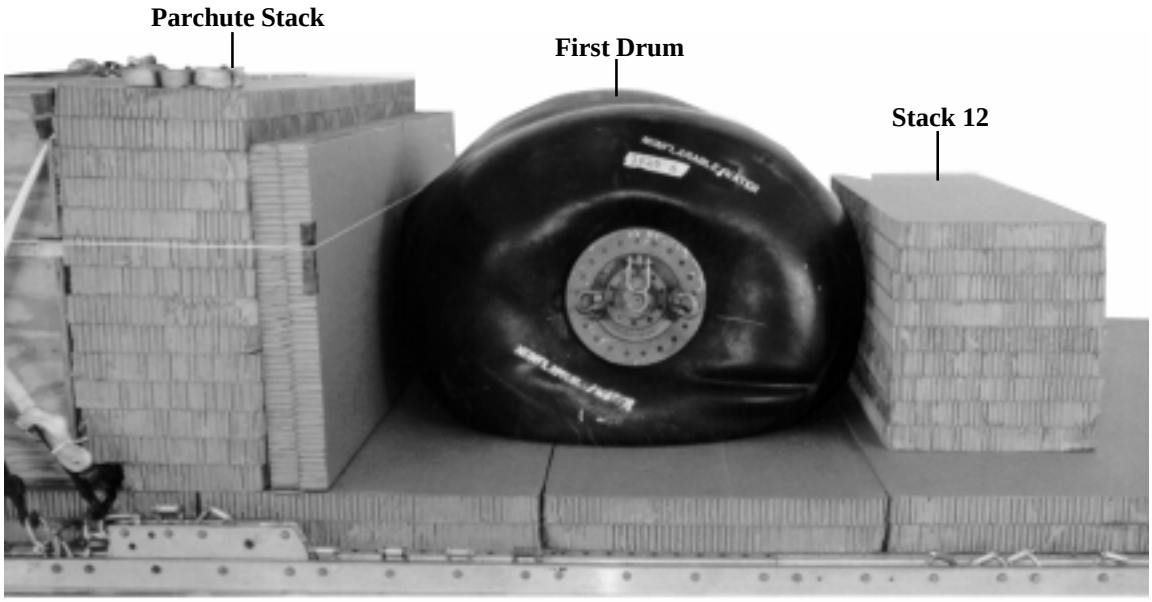
Step:

1. Cut 14 pieces of 96-inch by 19-inch honeycomb and glue them together.
2. Position the parachute stack flush against the front of the equipment hose box.
3. Place two pieces of 96-inch by 36-inch honeycomb on edge in front of the parachute stack. Tape the edge and secure with type III nylon cord.

Figure 11-70. Parachute stack positioned

11-79. Positioning and Lashing the Drums

Position and lash drums in Figures 11-71 through 11-79.



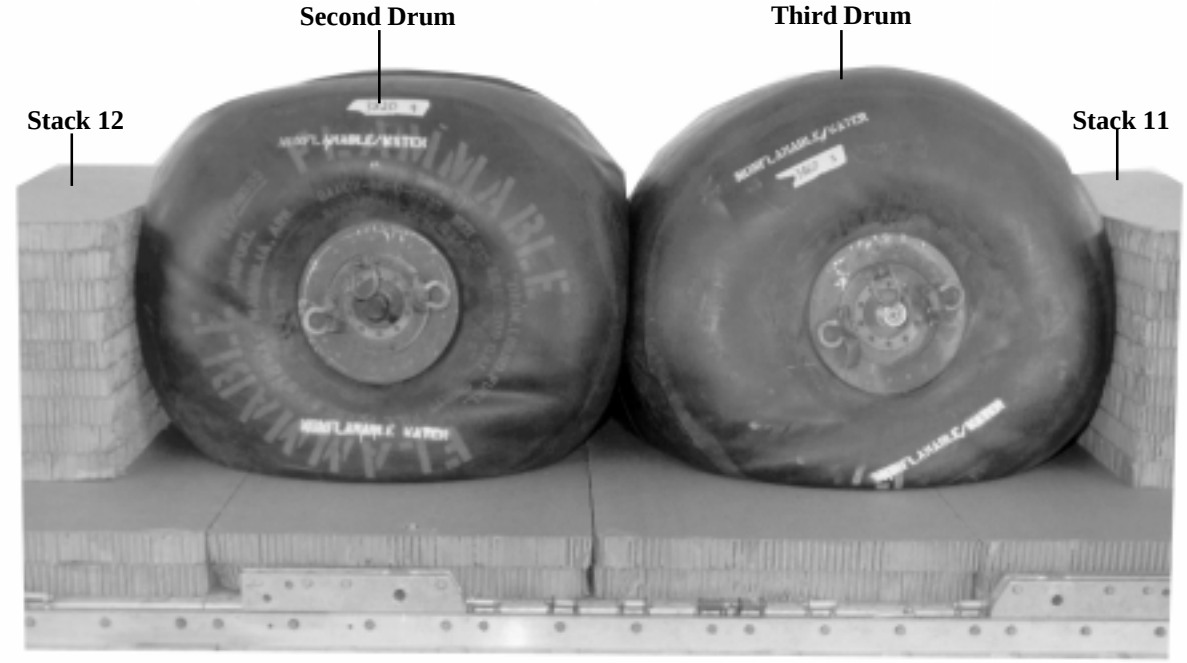
NOTE: Stacks 11 and 12 may need to be moved during placement of drums.

Step:

1. Place a platform clevis on one end of two 9-foot (2-loop), type XXVI slings. Attach sling to each side of the drum for lifting purposes only and remove after positioning (not shown).

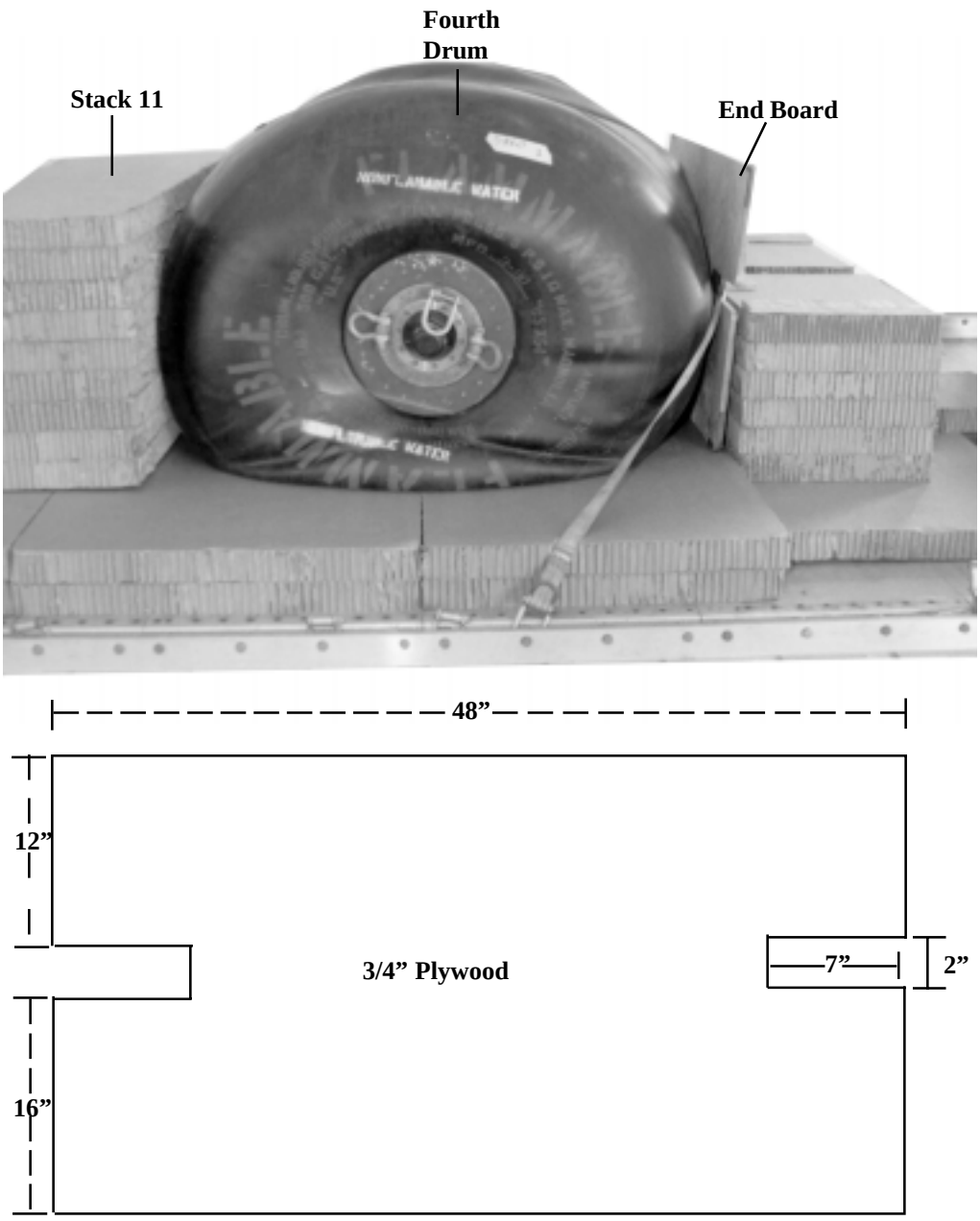
2. Position the first drum centered left to right on the platform, and in front of the parachute stack.

Figure 11-71. Drums positioned on platform



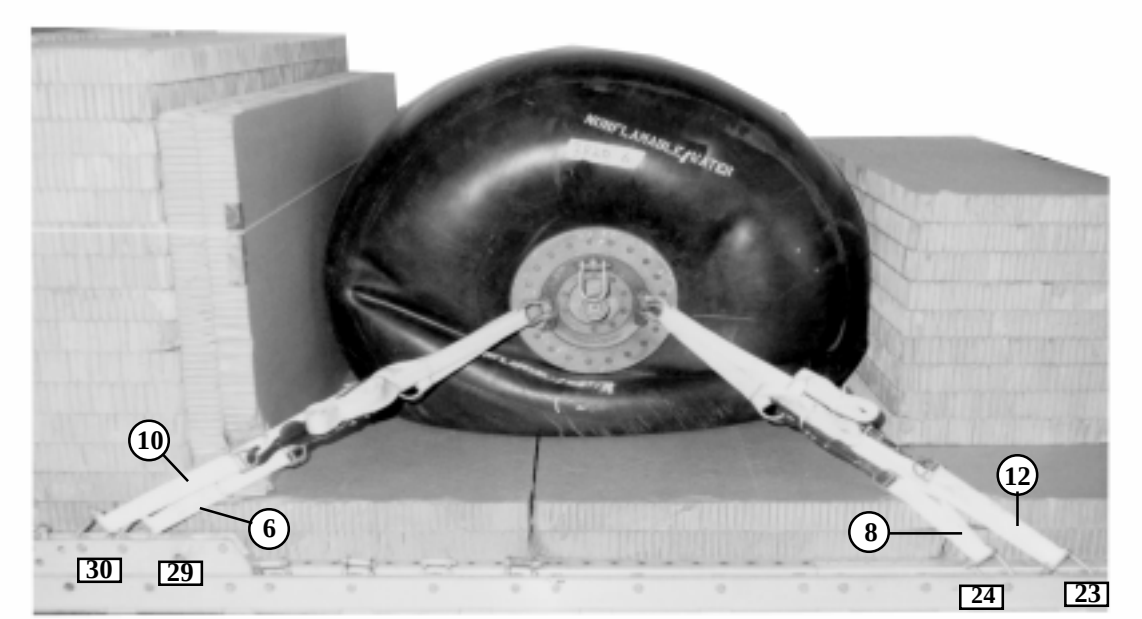
3. Position the second and third drums centered between honeycomb stacks 12 and 11.

Figure 11-71. Drums positioned on platform (continued)



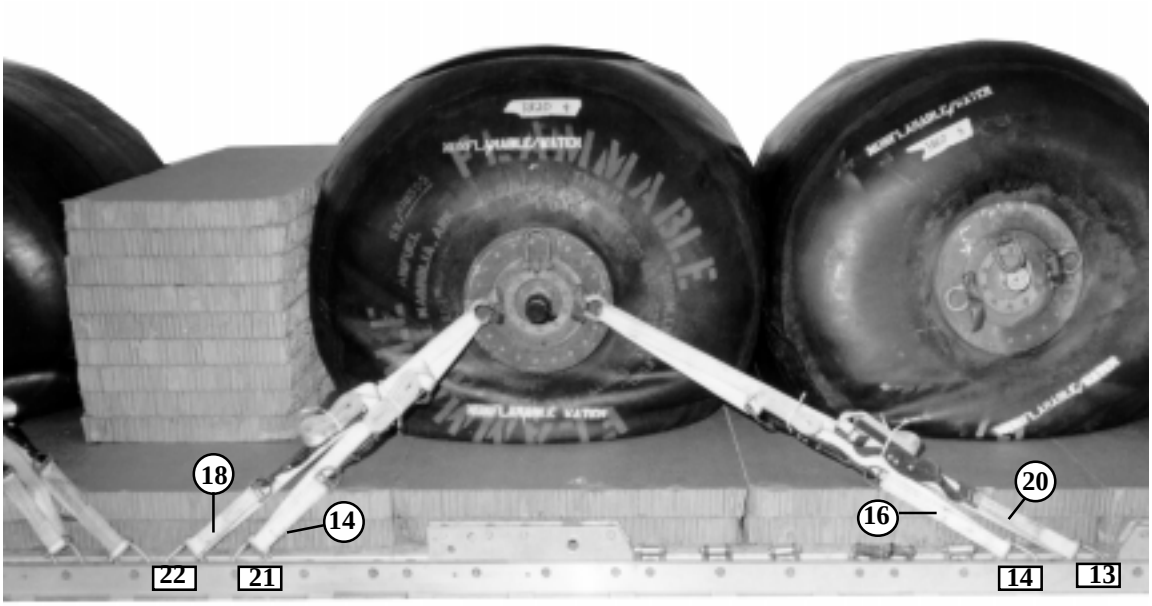
4. Position the fourth drum centered and in front of stack 11.
5. Construct the end board.
6. Place the end board in front of the fourth drum.
7. Route a 15-foot lashing through it’s own D-ring on clevis 6 through the cutouts of the end board to clevis 6A (this is a temporary lashing).

Figure 11-71. Drums positioned on platform (continued)



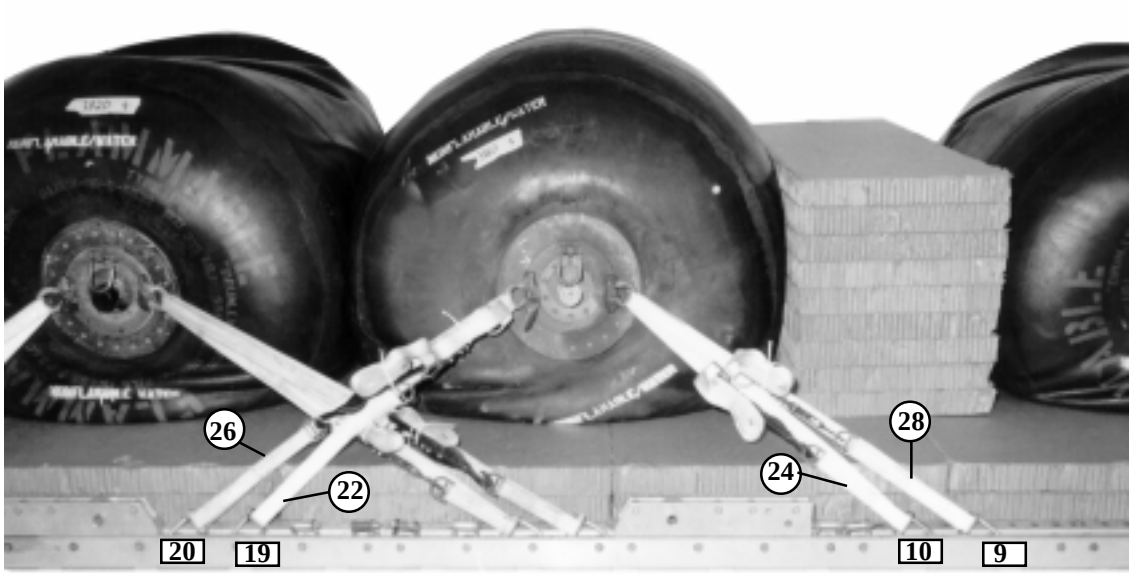
Lashing Number	Clevis Number	Instructions
6	29	Route a 15-foot lashing from clevis 29 to the right rear shackle of the first drum.
7	29A	Route a 15-foot lashing from clevis 29A to the left rear shackle of the first drum.
8	24	Route a 15-foot lashing to the right front shackle of the first drum.
9	24A	Route a 15-foot lashing to the left front shackle of the first drum.
10	30	Route a 15-foot lashing to the right rear shackle of the first drum.
11	30A	Route a 15-foot lashing to the left rear shackle of the first drum.
12	23	Route a 15-foot lashing to the right front shackle of the first drum.
13	23A	Route a 15-foot lashing to the left front shackle of the first drum.

Figure 11-72. Lashings 6 through 13 installed



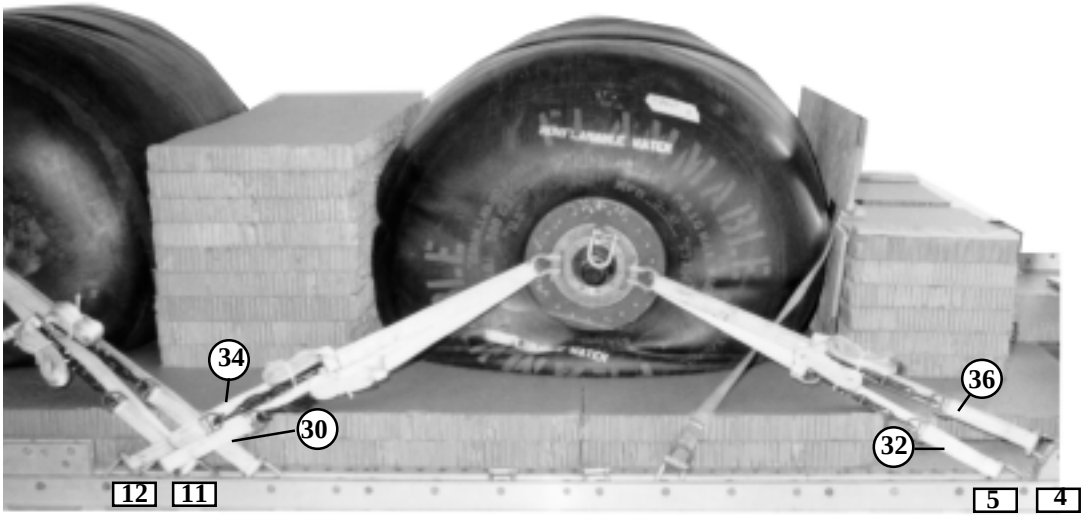
Lashing Number	Clevis Number	Instructions
14	21	Route a 15-foot lashing to the right rear shackle of the second drum.
15	21A	Route a 15-foot lashing to the left rear shackle of the second drum.
16	14	Route a 15-foot lashing to the right front shackle of the second drum.
17	14A	Route a 15-foot lashing to the left front shackle of the second drum.
18	22	Route a 15-foot lashing to the right rear shackle of the second drum.
19	22A	Route a 15-foot lashing to the left rear shackle of the second drum.
20	13	Route a 15-foot lashing to the right front shackle of the second drum.
21	13A	Route a 15-foot lashing to the left front shackle of the second drum.

Figure 11-73. Lashings 14 through 21 installed



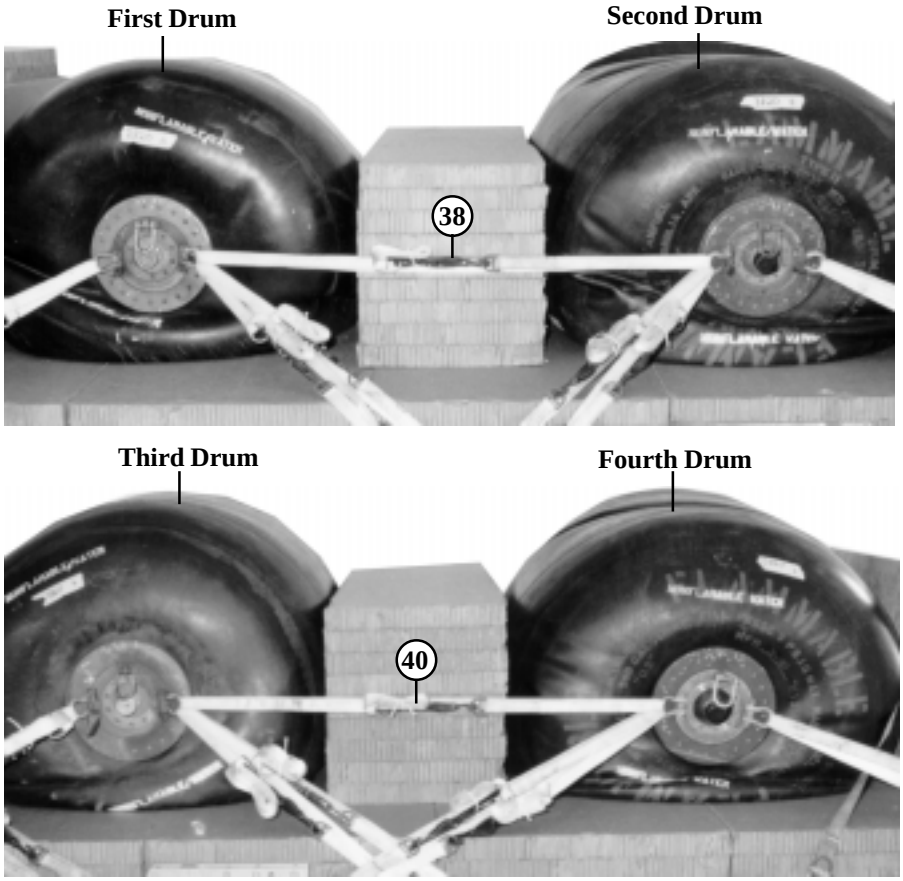
Lashing Number	Clevis Number	Instructions
22	19	Route a 15-foot lashing from clevis 19 to the right rear shackle of the third drum.
23	19A	Route a 15-foot lashing from clevis 19A to the left rear shackle of the third drum.
24	10	Route a 15-foot lashing to the right front shackle of the third drum.
25	10A	Route a 15-foot lashing to the left front shackle of the third drum.
26	20	Route a 15-foot lashing to the right rear shackle of the third drum.
27	20A	Route a 15-foot lashing to the left rear shackle of the third drum.
28	9	Route a 15-foot lashing to the right front shackle of the third drum.
29	9A	Route a 15-foot lashing to the left front shackle of the third drum.

Figure 11-74. Lashings 22 through 29 installed



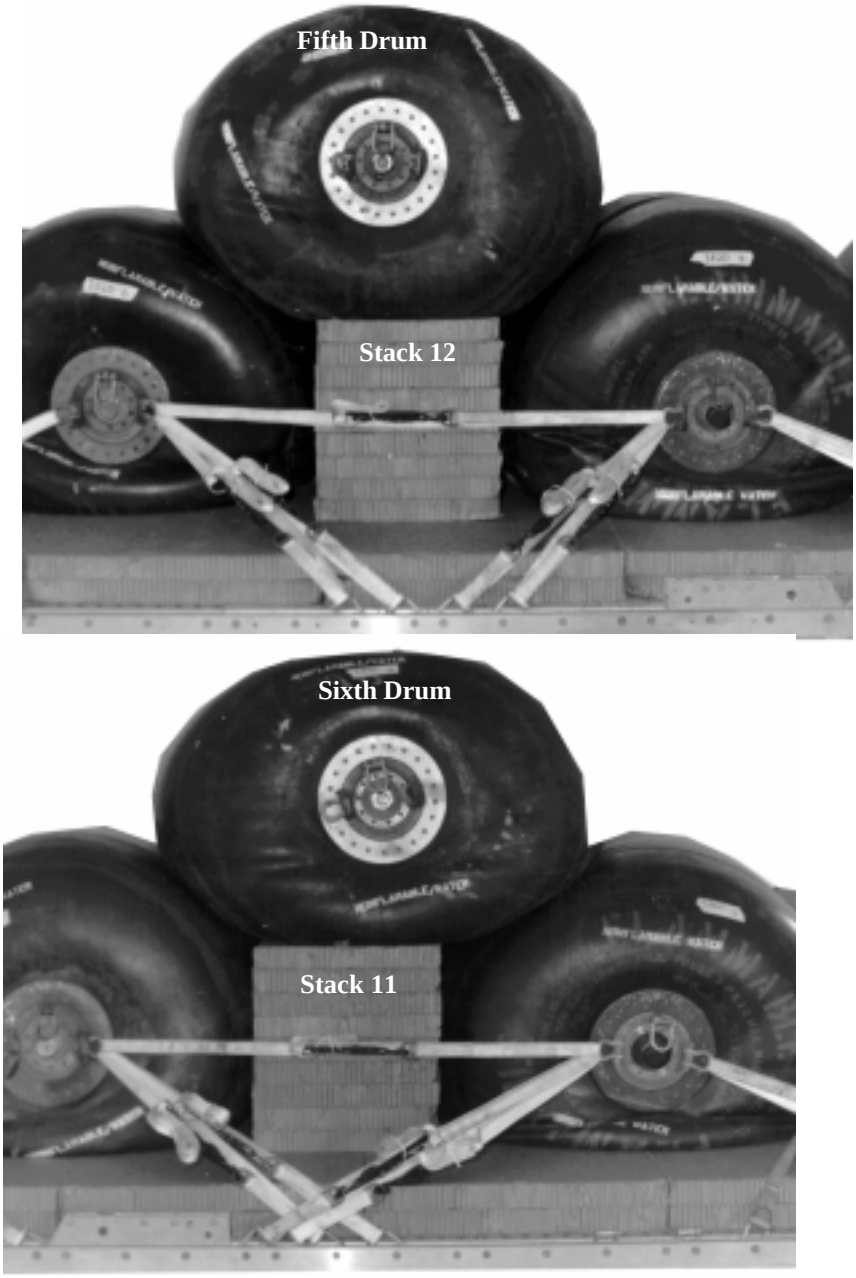
Lashing Number	Clevis Number	Instructions
30	11	Route a 15-foot lashing to the right rear shackle of the fourth drum.
31	11A	Route a 15-foot lashing to the left rear shackle of the fourth drum.
32	5	Route a 15-foot lashing to the right front shackle of the fourth drum.
33	5A	Route a 15-foot lashing to the left front shackle of the fourth drum.
34	12	Route a 15-foot lashing to the right rear shackle of the fourth drum.
35	12A	Route a 15-foot lashing to the left rear shackle of the fourth drum.
36	4	Route a 15-foot lashing to the right front shackle of the fourth drum.
37	4A	Route a 15-foot lashing to the left front shackle of the fourth drum.

Figure 11-75. Lashings 30 through 37 installed



Lashing Number	Clevis Number	Instructions
38		Route a 15-foot lashing from the front shackle of the first drum to the rear shackle of the second drum on the right side.
39		Route a 15-foot lashing from the front shackle of the second drum to the rear shackle of the third drum on the left side (not shown).
40		Route a 15-foot lashing from the front shackle of the third drum to the rear shackle of the fourth drum on the right side.

Figure 11-76. Lashings 38 through 40 installed

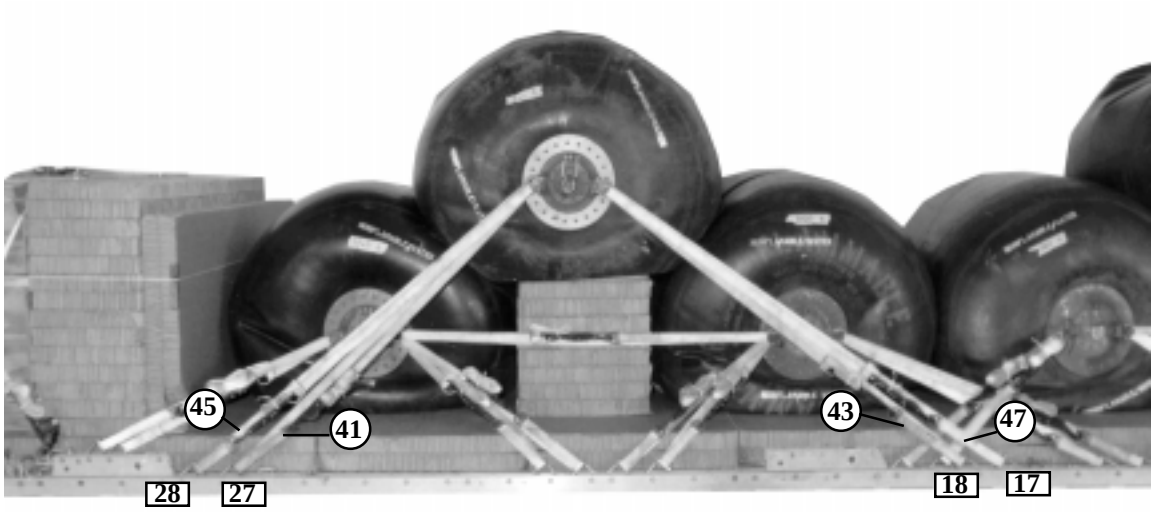


Step:

1. Position the fifth drum centered on top of stack 12.

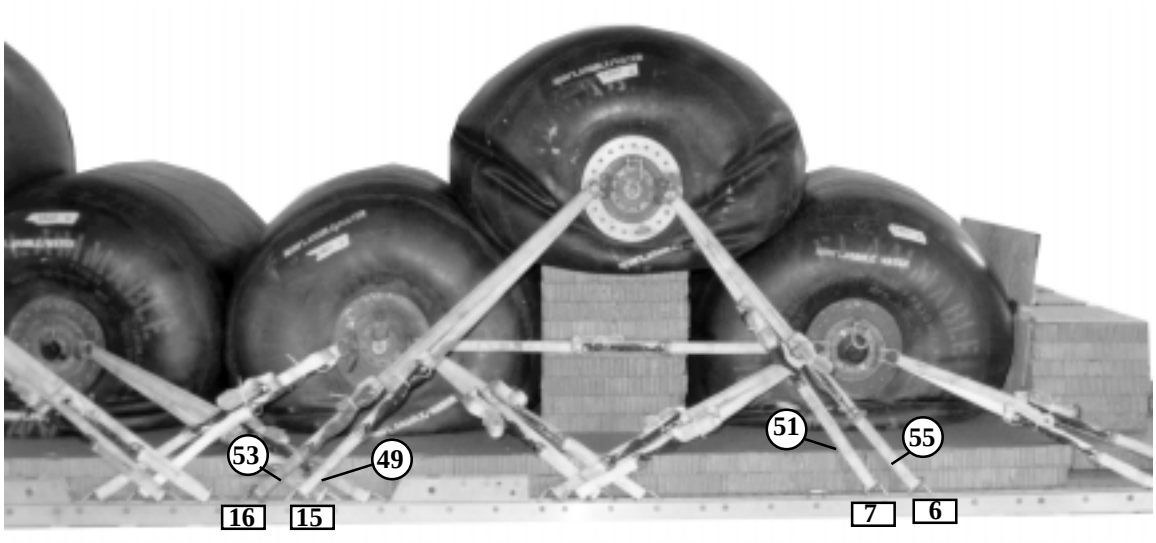
2. Position the sixth drum centered on top of stack 11.

Figure 11-77. Drums positioned on platform



Lashing Number	Clevis Number	Instructions
41	27	Route a 15-foot lashing from clevis 27 to the right rear shackle of the fifth drum.
42	27A	Route a 15-foot lashing from clevis 27A to the left rear shackle of the fifth drum.
43	18	Route a 15-foot lashing from clevis 18 to the right front shackle of the fifth drum.
44	18A	Route a 15-foot lashing from clevis 18A to the left front shackle of the fifth drum.
45	28	Route a 15-foot lashing from clevis 28 to the right rear shackle of the fifth drum.
46	28A	Route a 15-foot lashing from clevis 28A to the left rear shackle of the fifth drum.
47	17	Route a 15-foot lashing from clevis 17 to the right front shackle of the fifth drum.
48	17A	Route a 15-foot lashing from clevis 17A to the left front shackle of the fifth drum.

Figure 11-78. Lashings 41 through 48 installed

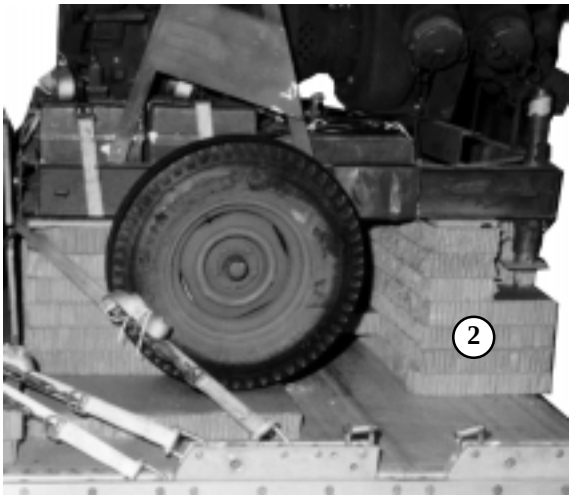


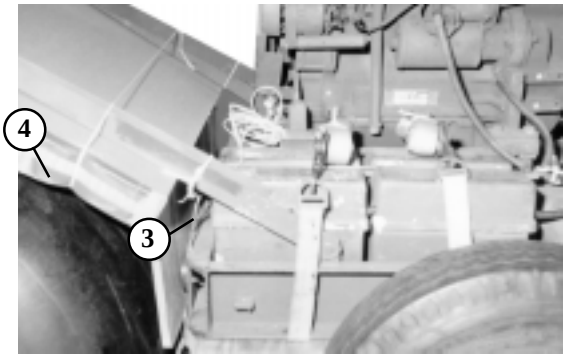
Lashing Number	Clevis Number	Instructions
49	15	Route a 15-foot lashing from clevis 15 to the right rear shackle of the sixth drum.
50	15A	Route a 15-foot lashing from clevis 15A to the left rear shackle of the sixth drum.
51	7	Route a 15-foot lashing from clevis 7 to the right front shackle of the sixth drum.
52	7A	Route a 15-foot lashing from clevis 7A to the left front shackle of the sixth drum.
53	16	Route a 15-foot lashing from clevis 16 to the right rear shackle of the sixth drum.
54	16A	Route a 15-foot lashing from clevis 16A to the left rear shackle of the sixth drum.
NOTE: Remove the temporary end board lashing on clevises 6 and 6A.		
55	6	Route a 15-foot lashing from clevis 6 to the right front shackle of the sixth drum.
56	6A	Route a 15-foot lashing from clevis 6A to the left front shackle of the sixth drum.

Figure 11-79. Lashings 49 through 56 installed

11-80. Preparing and Positioning the Pump

Prepare and position the pump as shown in Figures 11-16 and 11-80.





Step:

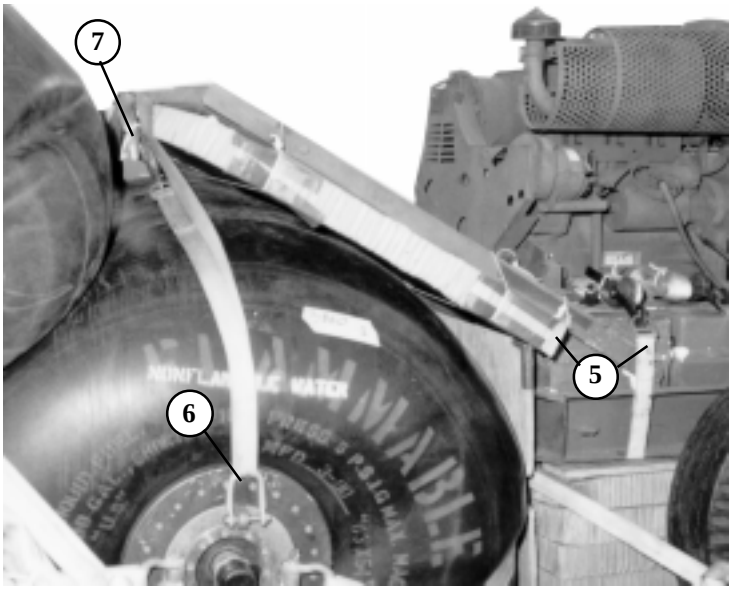
1. Preposition two 15-foot lashings in each of the rear tie down points on the pump (not shown).

2. Position the pump on honeycomb stack 1 aligning the front frame edge with the front edge of the platform.

3. Unbolt the lower arm of the pump lifting frame and secure it to the frame with type III nylon cord and disconnect the lashing around the battery box.

4. Tape the edges of a 53-inch by 36-inch piece of honeycomb and secure it to the rear lifting frame with type III nylon cord.

Figure 11-80. Pump prepared and positioned



5. Position the lifting frame on the fourth drum and reconnect the lashing around the battery box.

6. Route a 15-foot lashing through the top right shackle on the fourth drum over and through the lifting point on the frame. Continue to route the same 15-foot lashing through the top left shackle on the fourth drum back over and through the lifting point on the frame. Secure the lashing with a load binder and D-ring.

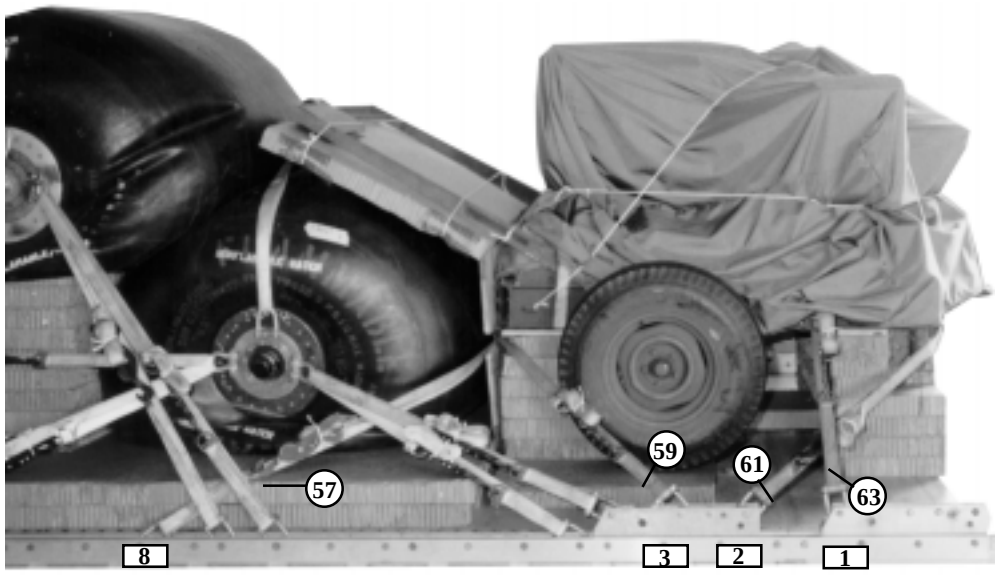
7. Secure a piece of felt on the lifting point with type III nylon cord.

8. Secure a canvas cover over the pump and secure with type III nylon cord (not shown).

Figure 11-80. Pump prepared and positioned (continued)

11-81. Lashing Pump to Platform

Lash the pump to the platform as shown in Figure 11-81.



Lashing Number	Clevis Number	Instructuions
57	8	Route the prepositioned 15-foot lashing from the right rear tiedown point through the cutout in the endboard to clevis 8.
58	8A	Route a prepositioned 15-foot lashing from the left rear tiedown point through the cutout in the endboard to clevis 8A.
59	3	Route a prepositioned 15-foot lashing from the right rear tiedown point to clevis 3.
60	3A	Route a prepositioned 15-foot lashing from the left rear tie-down point to clevis 3A.
61	2	Route a 15-foot lashing from clevis 2 to the right front tie-down point.
62	2A	Route a 15-foot lashing from clevis 2A to the left front tie-down point.
63	1	Route a 15-foot lashing from clevis 1 to the right side frame
64	1A	Route a 15-foot lashing from clevis 1A to the left side frame.

Figure 11-81. Lashings 57 through 64 installed

11-82. Building, Positioning and Lashing the Separator Box to the Platform

Build the separator box as shown in Figure 11-82. Place the separator in the box as shown in Figure 11-83. Prepare and position the separator box as shown in Figures 11-84 and 11-85.

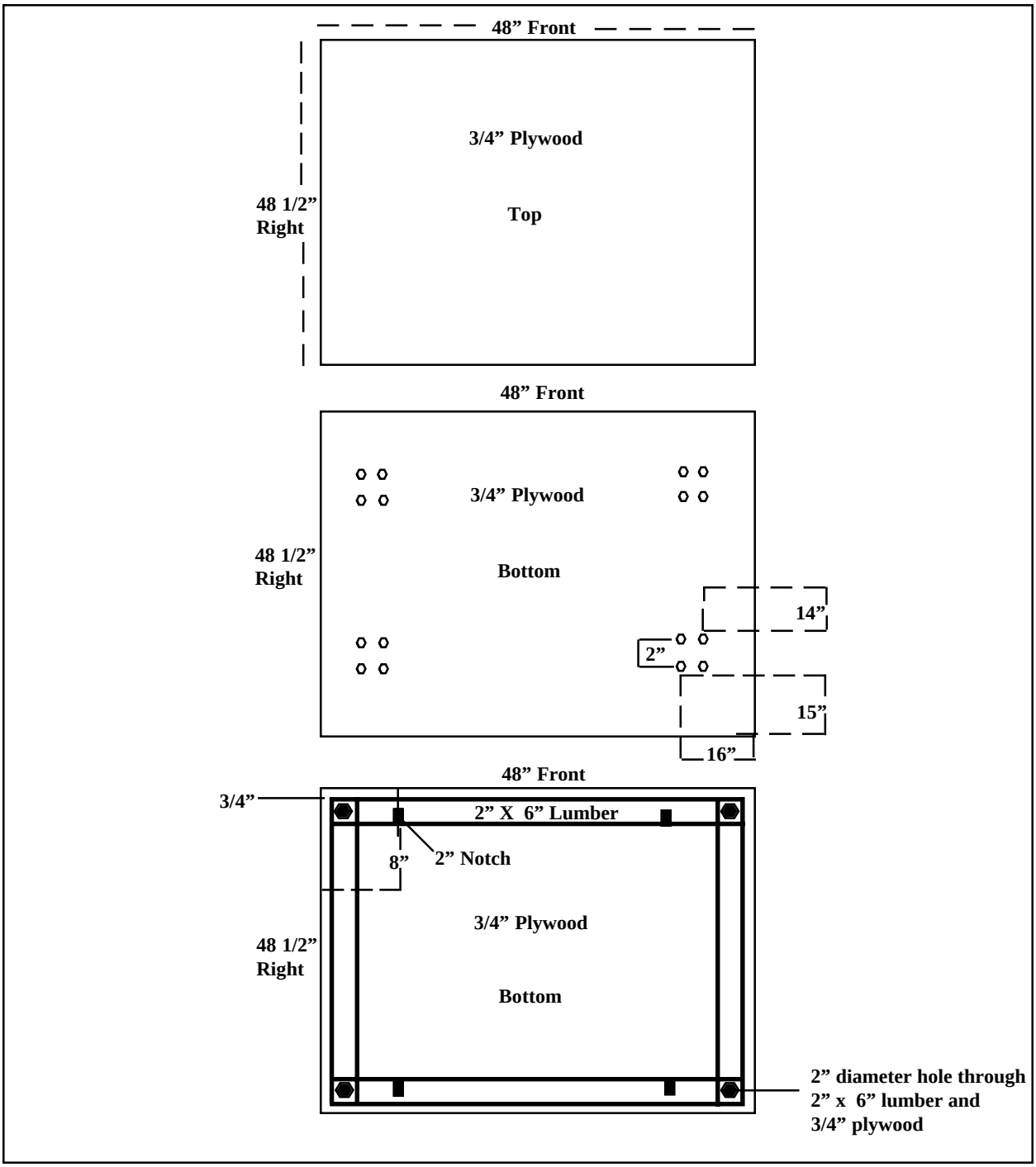


Figure 11-82. Separator box built

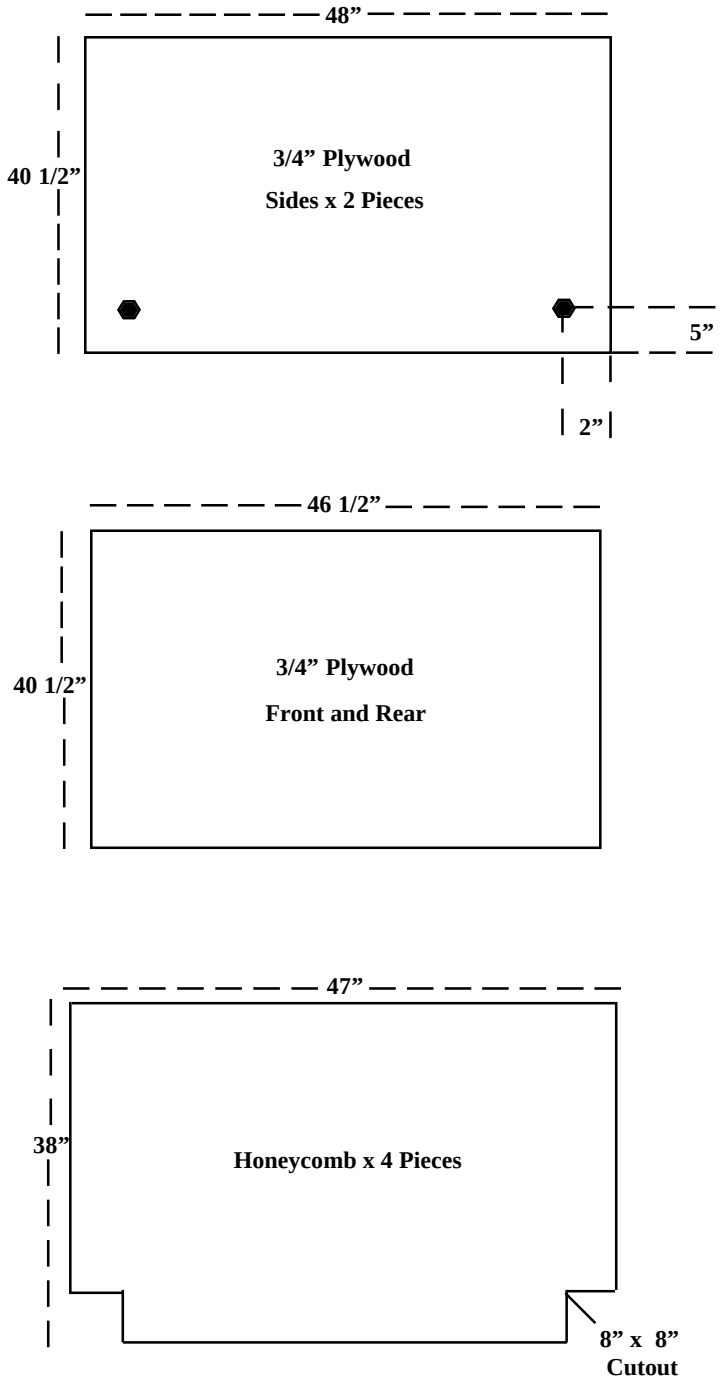
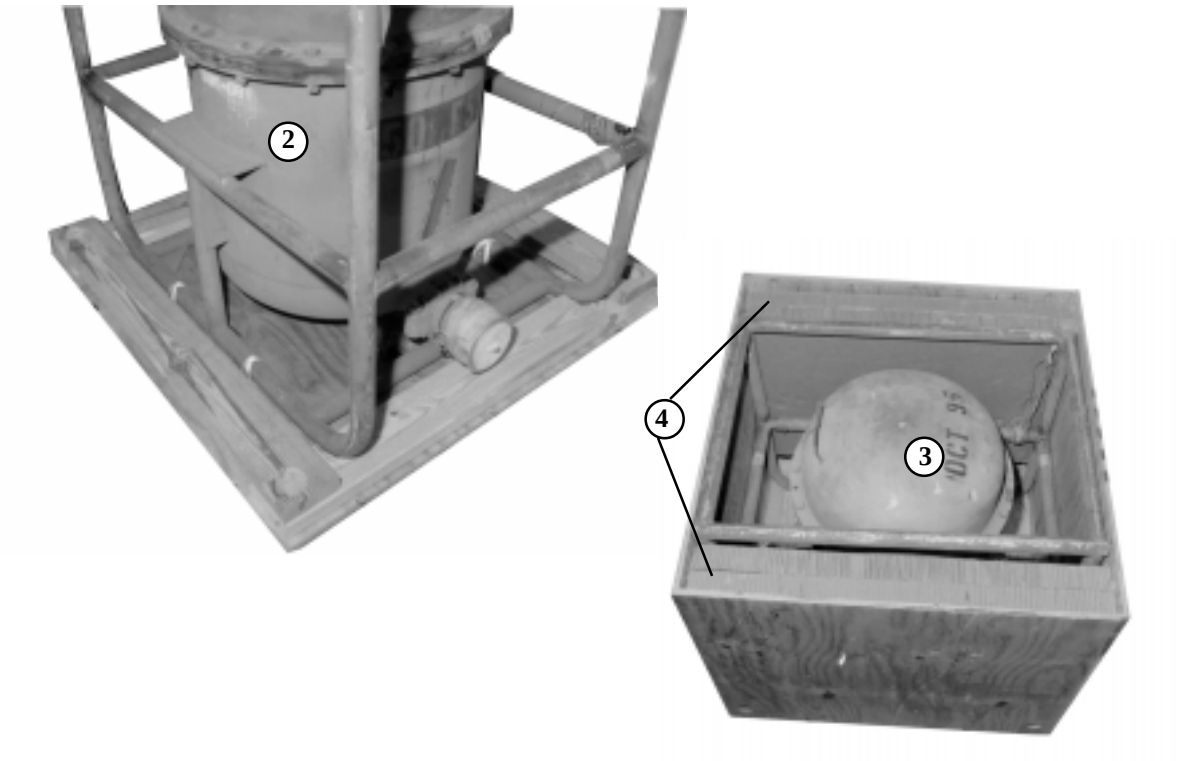


Figure 11-82. Separator box built (continued)



Step:

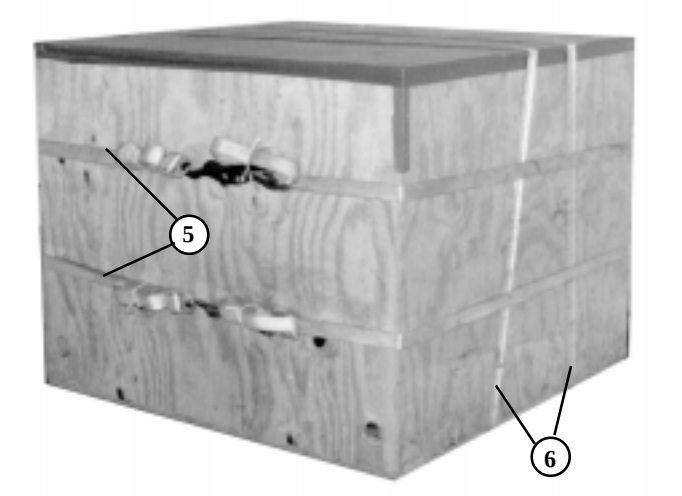
1. Place a piece of 1/2-inch tubular nylon webbing through the holes on the bottom piece of the separator box (not shown).

2. Place the fuel separator in the box aligning the separator frame with the notched cutouts in the 2-inch by 6-inch piece of lumber.

3. Secure the separator with 1/2-inch tubular nylon webbing through the holes in the bottom piece.

4. Place four 47-inch by 38-inch pieces of honeycomb with notched corners (two per side), next to the separator in the box.

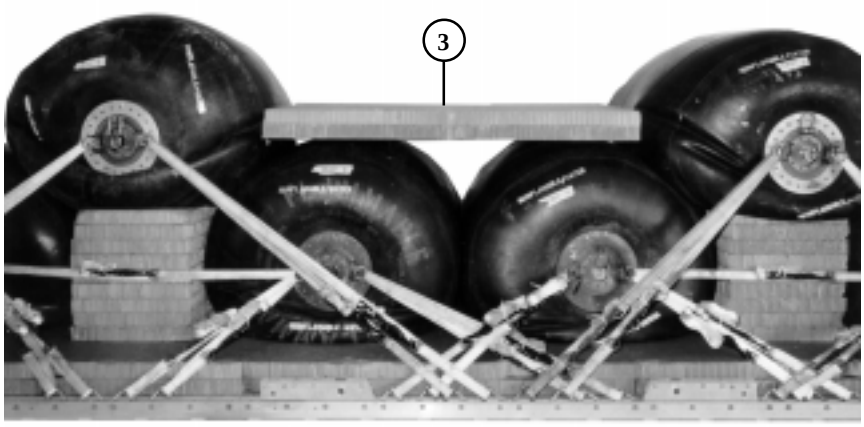
Figure 11-83. Separator placed in box

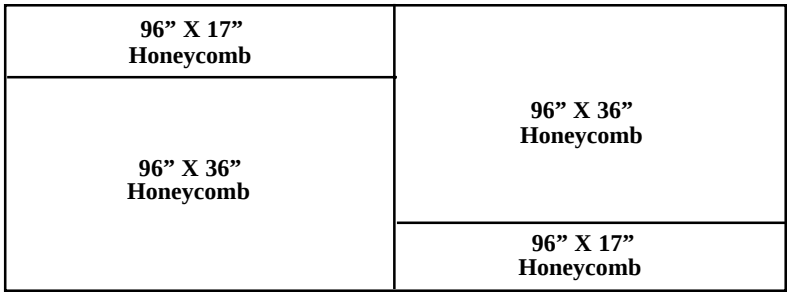


5. Use two 15-foot lashings to secure the box. Place each 15-foot lashing approximately 16 inches in from the top and bottom of the box.

6. Use two 15-foot lashings to secure the box from front to rear. Place each 15-foot lashing approximately 16 inches in from each side of the box.

Figure 11-83. Separator placed in box (continued)



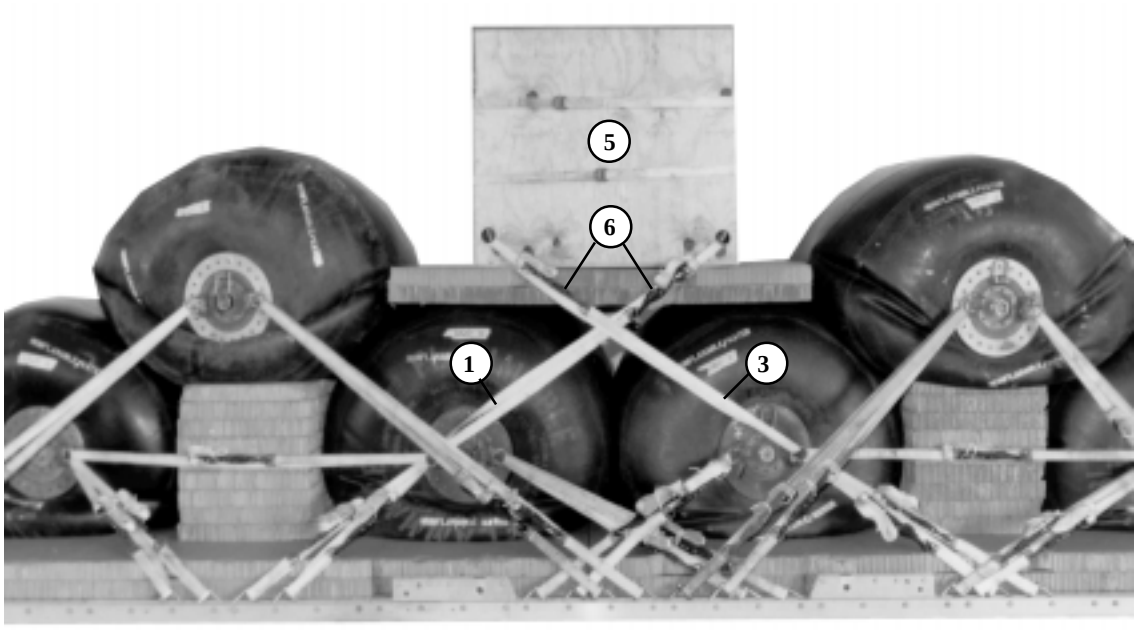


Step:

1. Alternate two pieces of 96-inch by 36-inch honeycomb and two pieces of 19-inch by 36-inch honeycomb to make a two layer 96-inch by 53-inch base. Glue the layers together.

2. Cut the stack to fit tightly between the fifth and sixth drums.

Figure 11-84. Honeycomb stack for separator box prepared



Step:

NOTE: The separator box must be suspended to complete the routing of the lashings.

1. Route a 15-foot lashing from the right rear shackle on the second drum through the right front holes in box.

2. Route a 15-foot lashing from the left rear shackle on the second drum through the left front holes in box.

3. Route a 15-foot lashing from the right front shackle on the third drum through the right rear holes in box.

4. Route a 15-foot lashing from the left front shackle on the third drum through the left rear holes in box.

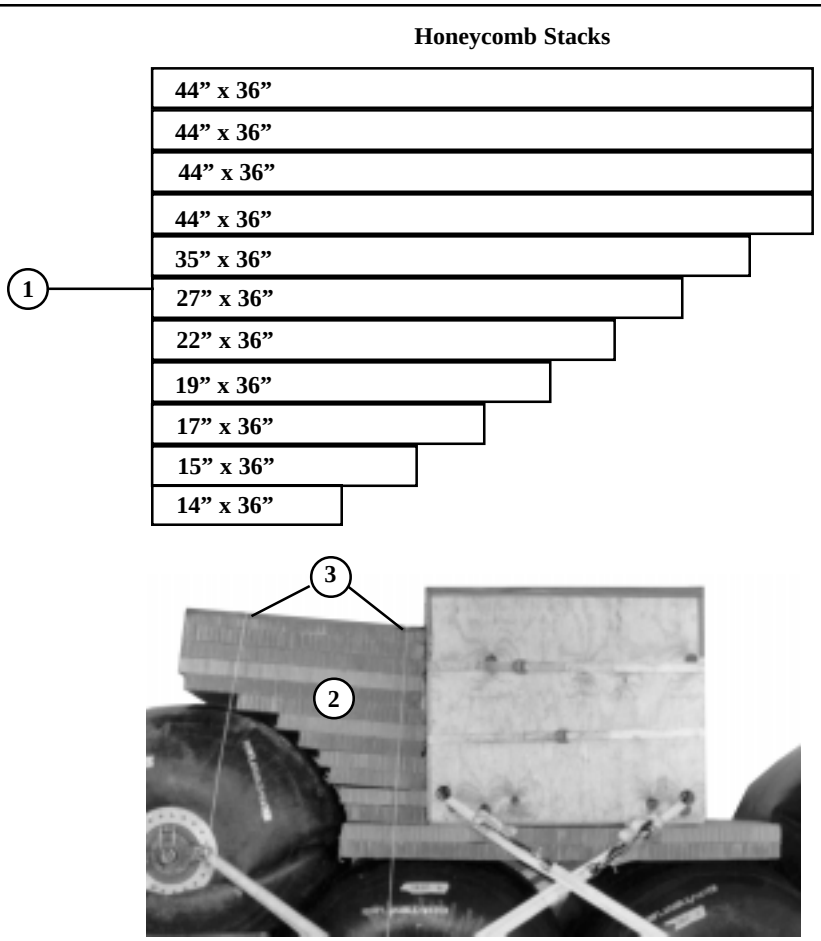
5. Position the separator box centered on the honeycomb between the drums.

6. Safety tie the lower hooks of the load binders to the lower D-rings with a single length of type III nylon cord.

Figure 11-85. Separator box positioned on platform

11-83. Constructing and Positioning the Release Platform

Construct and position the release platform as shown in Figure 11-86.



Step:

1. Construct the release platform and glue.

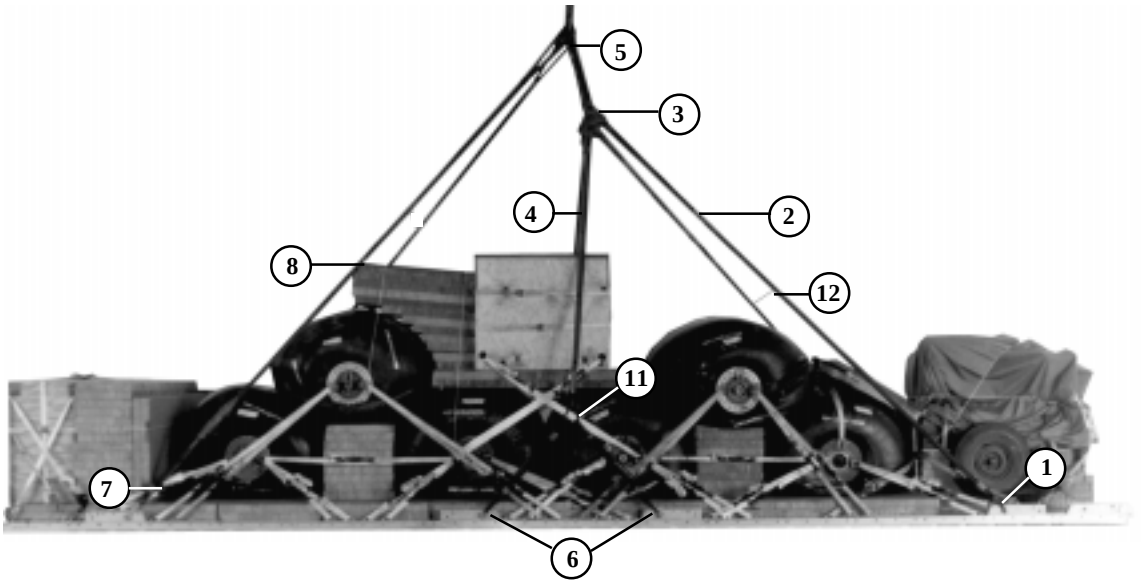
2. Position the release platform to the rear of the separator box and on top of the fifth drum.

3. Tape the top edges and secure with type III nylon cord to a convenient location on the load.

Figure 11-86. Release platform constructed

11-84. Installing Suspension Slings and Safety Tie

Install suspension slings and safety tie as shown in Figure 11-87.



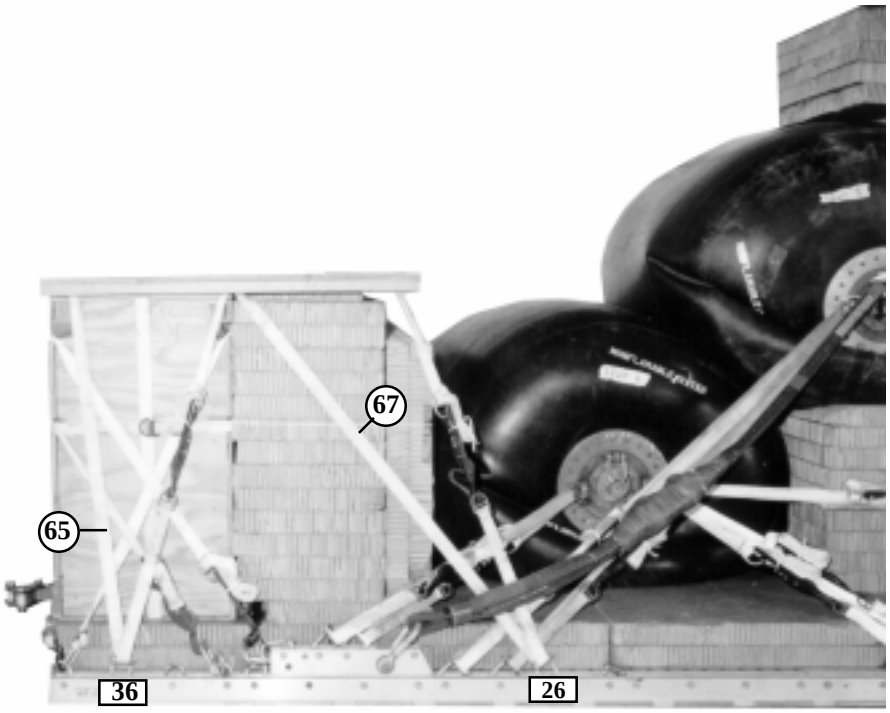
Step:

1. Place a large clevis in one end of a 16-foot (4 loop), type XXVI nylon suspension sling. Attach the clevis to the first suspension link.
2. Attach the running end of the 16-foot sling to a 3-point link.
3. Attach a 3-foot (4 loop), type XXVI nylon suspension sling to the 3-point link.
4. Attach a 9-foot (4 loop), type XXVI nylon suspension sling to the 3-point link.
5. Attach two 3-foot (4 loop), type XXVI nylon suspension slings to a large clevis and attach this clevis to the running end of the 9-foot sling.
6. Attach one large clevis to each running end of the two 3-foot slings and attach one clevis to each center suspension link.
7. Place a large clevis in one end of a 3-foot (4 loop), type XXVI nylon suspension sling. Attach the clevis to the right rear suspension link.
8. Attach a 5 1/2-inch 2 point link to the 3-foot sling and attach this to a 16-foot (4 loop), type XXVI nylon suspension sling.
9. Repeat steps 1 through 8 for the left side of the platform.
10. Safety the front and rear slings to the load with type I, 1/4-inch cotton webbing (not shown).
11. Secure the center sling with type III nylon cord.
12. Raise the slings and install the safety tie to the front and rear set of suspension slings using double 1/2-inch tubular nylon.

Figure 11-87. Suspension slings and safety tie installed

11-85. Building and Positioning Parachute Stowage Platform

Build and position parachute stowage platform as shown in Figure11-20. After building the parachute stowage box, place an 85-inch by17-inch piece of honeycomb inside it. Place the parachute stowage platform on top of the equipment hose box and lash the parachute stowage platform as shown in Figure 11-88.

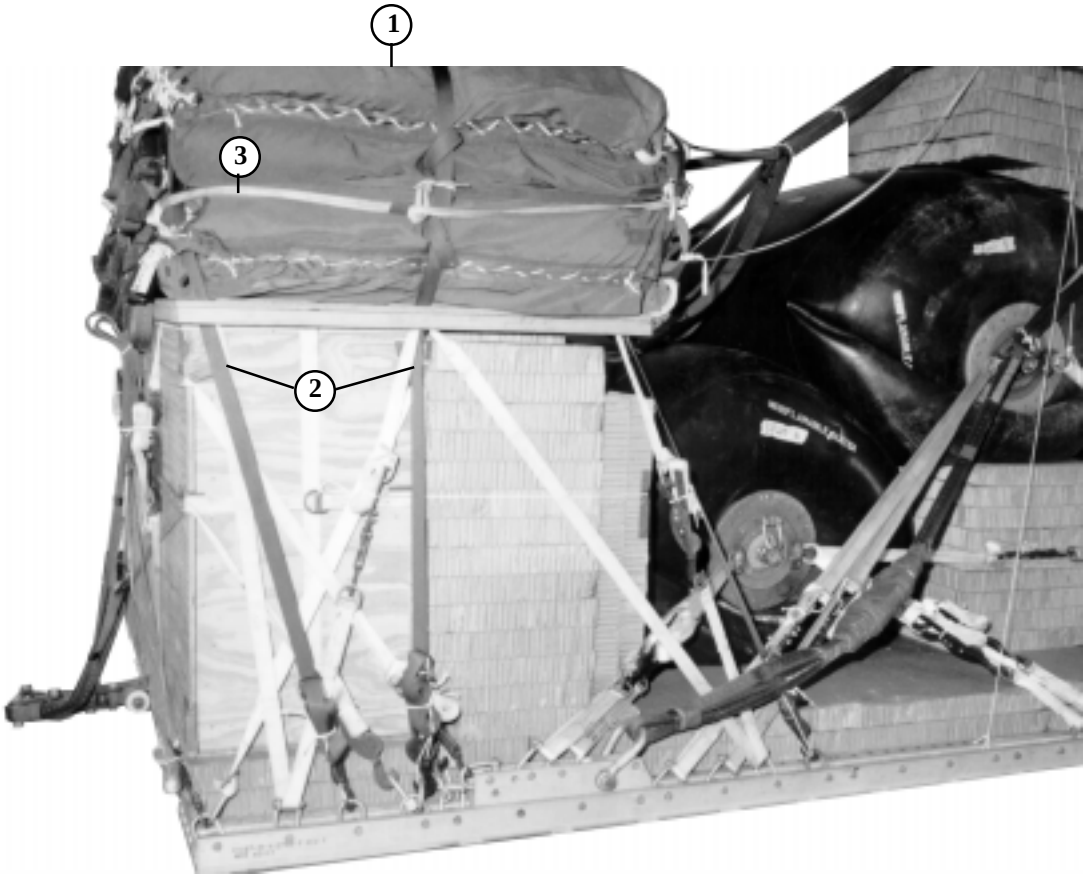


Lashing Number	Clevis Number	Instructions
65	36	Route a 15-foot lashing from clevis 36 through the rear and center right holes in the parachute stowage platform.
66	36A	Route a 15-foot lashing from clevis 36A through the rear and center left holes in the parachute stowage platform.
67	26	Route a 15-foot lashing from clevis 26 through the center and front right holes in the parachute stowage platform.
68	26A	Route a 15-foot lashing from clevis 26A through the center and front left holes in the parachute stowage platform.

Figure 11-88. Lashings 65 through 68 installed

11-86. Preparing and Stowing Cargo Parachutes

Prepare and stow cargo parachutes as shown in Figure 11-89.



Step:

1. Prepare and stow seven G-11 cargo parachutes in accordance with FM 10-500-2/ TO13C7-1-5.

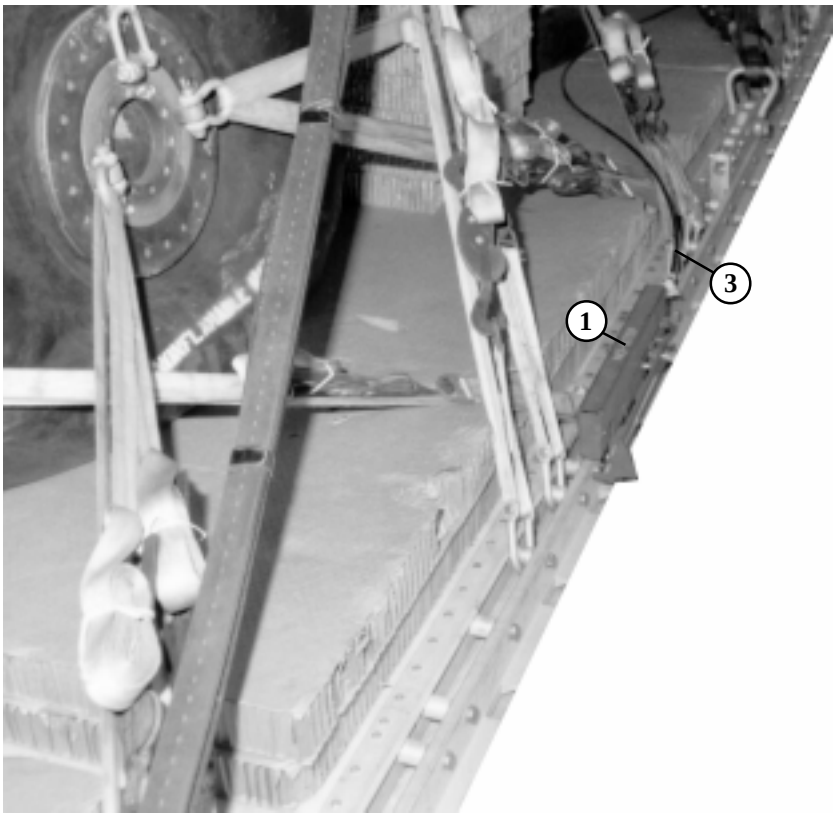
2. Restrain the parachutes with type X nylon webbing using clevises 25 and 25A, and 33 33A, and 35 and 35A.

3. Install the multicut parachute release strap in accordance with FM 10-500-2/TO13C7-1-5.

Figure 11-89. Cargo parachutes prepared and stowed

11-87. Installing the Extraction System

Install the extraction system as shown in Figure 11-90.



(1) Install the extraction force transfer coupling (EFTC) in accordance with FM 10-500-2/ TO13C7-1-5.

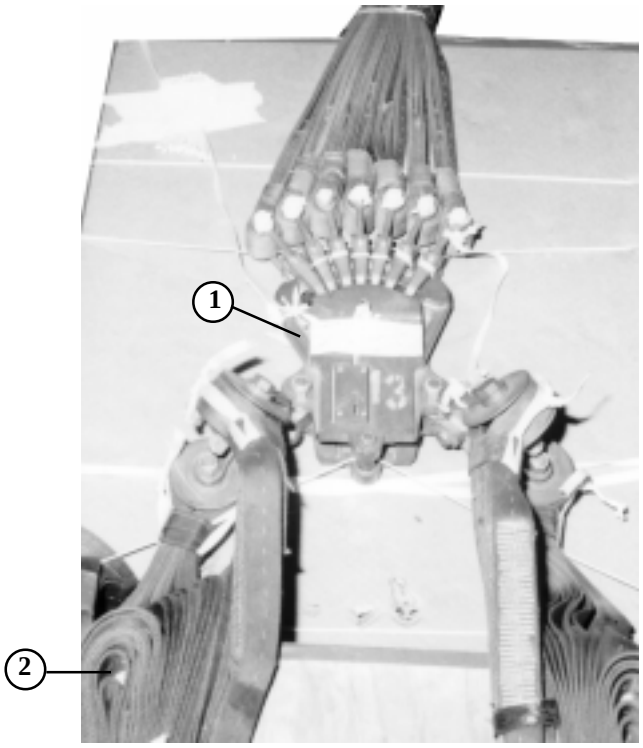
(2) Use a 9-foot (2 loop), type XXVI nylon sling as a deployment line (not shown).

(3) Use the rear mounting holes for the EFTC bracket and a 28-foot cable.

Figure 11-90. Extraction system installed

11-88. Installing the Release System

Install the release system as shown in Figure 11-91.



Step:

1. Place and secure the M-2 release on the release platform with type III nylon cord.

2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-1/TO 13C7-1-5.

3. S-fold and tie any slack in the suspension slings with 1/4-inch cotton webbing.

Figure 11-91. Release system installed

11-89. Installing Provisions for Emergency Restraints

Select and install provisions for the emergency restraints according to the emergency aft restraint requirement table in FM 10-500-2/ TO13C7-1-5.

11-90. Placing Extraction Parachute

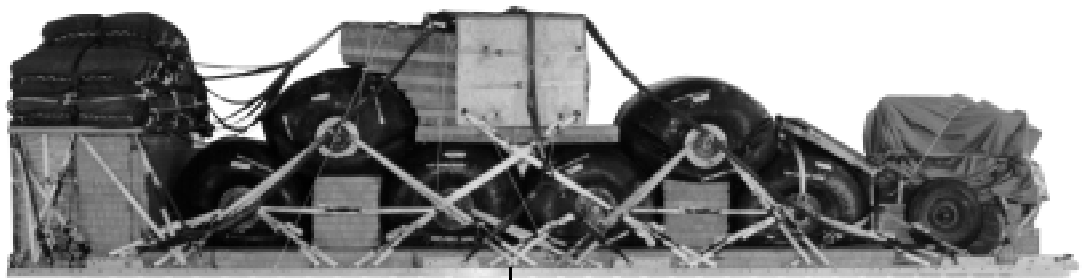
Select the extraction parachutes and extraction line needed using the extraction line requirements table in FM 10-500-2/TO13C7-1-5. Place the extraction line on the load for installation in aircraft.

11-91. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/ TO13C7-1-5 and as shown in Figure 11-92. Complete Shipper's Declaration for Dangerous Goods form. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

11-92. Equipment Required

Use the equipment listed in Table 11-4 to rig this load.



RIGGED LOAD DATA

WEIGHT _32,730 POUNDS

MAXIMUM WEIGHT_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _34,480 POUNDS

HEIGHT_ _97 INCHES

WIDTH_ _108 INCHES

LENGTH_ _424 INCHES

OVERHANG_ _FRONT 18 INCHES
REAR 22 INCHES

CENTER OF BALANCE: FROM THE FRONT EDGE OF THE PLATFORM :
201 INCHES

Figure 11-92. Six 500-gallon drums with a pump and separator rigged

Table 11-4. Equipment required for rigging six 500-gallon drums with a pump separator for low velocity airdrop on a type V platform

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	11
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon III, 550-lb	As required
1670-01-326-7309	Coupling, airdrop, extraction force transfer with cable, 28ft	1
	Cover:	
1670-00-360-0329	Clevis, large	1
1670-00-664-6958	Link, type IV	5
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in	As required
1670-01-183-2678	Leaf, extraction line, (line bag)	3
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI (for C130)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C141, C5, and C17)	1
1670-01-4452	Line, drouge (C17) 60-ft (1-loop), type XXVI	
	Link assembly:	
1670-00-783-2752	Three-point, 5 1/2-in	3
1670-00-783-5988	Type IV	5
	Two-point	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	2
5310-00-232-5165	Nut, 1-in diam, 4-in long	2
1670-00-003-3454	Plate, side, 5 1/2-in	2
1670-00-007-3414	Space, large	2

Table 11-4. Equipment required for rigging six 500-gallon drums with a pump separator for low velocity airdrop on a type V platform (contiuned)

National Stock Number	Item	Quantity
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	45 sheets
5530-00-220-6274	Lumber, 2 by 4-in	As required
5530-00-618-8073	Plywood, 3/4-in	4 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	7
	Cargo extraction	
1670-00-040-8135	28ft	2
1670-01-063-3715	Drouge, 15-ft (C17), with tow plate	1
	Platform, airdrop, type V, 32ft	1
1670-01-353-8425	Bracket, assembly, coupling	1
1670-01-162-2372	Clevis assembly, type V	88
1670-01-353-8424	Extraction bracket assembly	1
1670-01-247-2389	Suspension link	8
1670-01-162-2381	Tandem link	2
1670-01-097-8816	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	Suspension and lifting:	
1670-01-062-6308	16-ft (4-loop),type XXVI nylon webbing	2
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	6
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6314	60-ft (3-loop), type XXVI nylon webbing	5
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	5

Table 11-4. Equipment required for rigging six 500-gallon drums with a pump separator for low velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
1670-01-062-6305	Link, assembly, coupling, 3-point	2
1670-00-040-8219	Knife, multi, strap, parachute release	2
7510-00-266-5016	Tape, PSA, cloth back, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	88
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tublar, 1/2-in	As required
8305-00-261-8584	Type X, nylon	As required